

TRAFFIC STUDY

FOR
PROPOSED DEVELOPMENT

TERRACE VIEW

IN

TOWN OF BLACKSBURG, VIRGINIA

DATE: MAY 1, 2018

~JOB NO. 24170107.00~



448 Peppers Ferry Rd NW
Christiansburg, VA 24073
540.381.4290
Fax: 540.381.4291

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1. INTRODUCTION

Reliant Group Management is proposing to redevelop a portion of the existing Terrace View Apartments property. The existing site consists of a multi-family development with 533 bedrooms and is located east of Toms Creek Road between Patrick Henry Drive and Hunt Club Road. The existing development has access points on Toms Creek Road, Snyder Lane, and Hunt Club Road. The proposed development consists of multi-family units with 1,521 bedrooms (see Appendix A for vicinity map and Appendix B for concept plan). Two parking structures will be constructed to provide parking for the proposed development. Hunt Club Road will be reconstructed as part of this project and Snyder Lane will provide a connection between Patrick Henry Drive and Hunt Club Road. Access will be from Hunt Club Road and Snyder Lane.

The site is located east of Toms Creek Road between Patrick Henry Drive to the north and Hunt Club Road to the south. The project consists of tax parcels 225-A30 and 196-A8. The property is currently zoned RM-48, Medium Density Multiunit Residential District.

Patrick Henry Drive is a four-lane, undivided roadway that provides east/west access from Toms Creek Road to Harding Avenue. Toms Creek Road is a two-lane, undivided roadway that provides north/south access from Route 460 to Prices Fork Road. Hunt Club Road is proposed to be a two-lane divided boulevard-style roadway that provides east/west access between Toms Creek Road and Progress Street. Snyder Lane is proposed to be a two-lane undivided roadway that provides north/south access between Patrick Henry Drive and Hunt Club Road. Progress Street is a two-lane undivided roadway that provides north/south access from Givens Lane to North Main Street. The posted speed on all of these local roads is 25 mph. The existing intersections of Patrick Henry Drive and Toms Creek Road and Patrick Henry Drive and Progress Street are signalized. A roundabout will be constructed at the intersection of Hunt Club Road and Snyder Lane. All other intersections in the study area are or will be unsignalized.

The proposed development will have two points of vehicular access on Hunt Club Road and two points of vehicular access on Snyder Lane. All entrances are full access entrances. A concept plan was prepared by Balzer and Associates, Inc. and is included in Appendix B.

Level of service and queue lengths will be analyzed for the Patrick Henry Drive/Toms Creek Road intersection and for the Patrick Henry Drive/Progress Street intersection. Three different scenarios will be considered: Existing Condition 2018, Background Condition 2020, and Buildout Condition 2020 to determine the effects of the background traffic growth and the

proposed development on the intersections. Turn lane requirements will be analyzed at the Hunt Club Road connection to Toms Creek Road and at the Snyder Lane connection to Patrick Henry Drive.

Level of service (LOS) for signalized intersections is evaluated based on control delay per vehicle and the driver's perception of those conditions. Control delay is the portion of the total delay attributed to the control at the intersection. Table 1 depicts the LOS scale with corresponding control delay per vehicle, with LOS "A" representing the best operating conditions and LOS "F" representing the worst.

LEVEL OF SERVICE CRITERIA FOR SIGNALIZED INTERSECTIONS	
Level Of Service	Avg. Control Delay (Sec./Veh)
A	≤ 10
B	$> 10 - 20$
C	$> 20 - 35$
D	$> 35 - 55$
E	$> 55 - 80$
F	≥ 80

Table 1: LOS Criteria for Signalized Intersections (HCM)

This study was undertaken by Balzer and Associates, Inc. to:

- determine the total number of vehicle trips generated by the potential development to be added to the adjacent street network;
- determine the impacts to level of service and queue lengths at the existing signalized intersections as a result of the background traffic growth and from the proposed development;
- and to determine turn lane requirements for the project.

2. ANALYSIS OF EXISTING CONDITIONS

The site is currently developed as an off-campus student housing development with apartment units containing a total of 533 bedrooms. The development has access to Toms Creek Road, Hunt Club Road, and Snyder Lane. All existing improvements will be demolished to allow for the proposed development. The existing intersections of Patrick Henry Drive and Toms Creek Road, as well as Patrick Henry Drive and Progress Street are signalized. Signal timing information for the intersections was provided by the Town of Blacksburg and is included in Appendix D. VDOT traffic count data was available for some of the existing streets and is listed below and included in Appendix C.

2017 VDOT Traffic Count Data:

University City Boulevard (west of Toms Creek Road):

AADT = 8,800 vpd

Directional Factor = 0.555

K Factor = 0.106

Progress Street (south of Patrick Henry Drive):

AADT = 3,800 vpd

Directional Factor = 0.529

K Factor = 0.09

Progress Street (north of Patrick Henry Drive):

AADT = 1,100 vpd

Directional Factor = 0.759

K Factor = 0.109

Toms Creek Road:

AADT = 9,400 vpd

Directional Factor = 0.502

K Factor = 0.093

Patrick Henry Drive:

AADT = 8,900 vpd

Directional Factor = 0.522

K Factor = 0.098

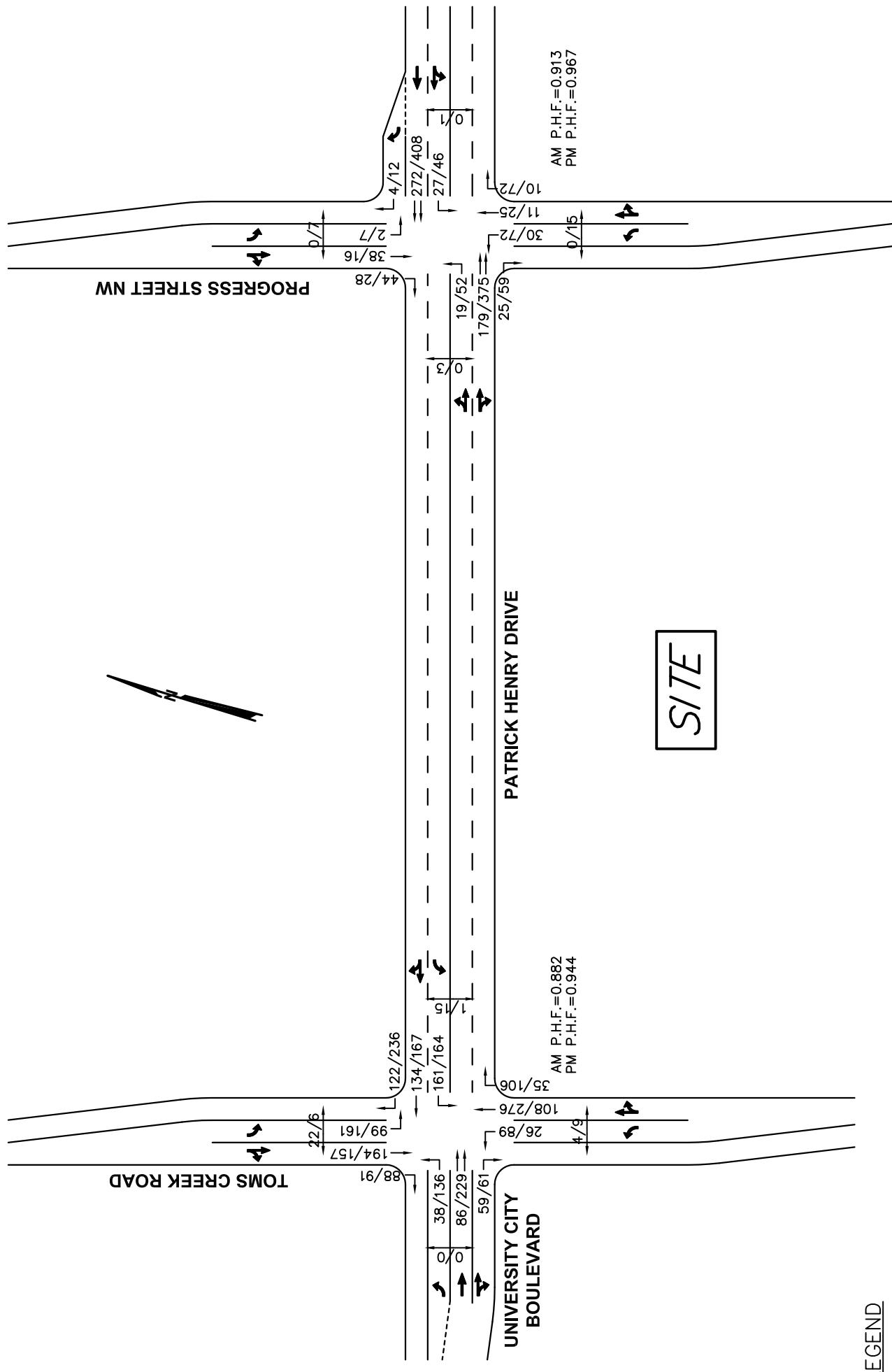
In addition to the VDOT published traffic count data, manual tube counts were performed in several locations by the developer in cooperation with the Town of Blacksburg to determine the appropriate peak hour windows. These tube counts were supplemented by turning movement counts at the existing signalized intersections. Turning movement counts were performed on Wednesday, April 4, 2018 from 8:00 AM – 10:00 AM and from 4:30 PM – 6:30 PM and on Thursday, April 5, 2018 from 7:30 AM – 11:30 AM and from 3:00 PM – 7:00 PM. These days and hours were chosen to capture the MWF and TT class schedules, and to capture the AM

and PM peak hours on each day. This manual traffic count data is provided in Appendix C. Figure 1 graphically depicts the existing peak hour traffic volumes and Figure 2 shows the heavy vehicle percentages obtained from the counts.

Utilizing the data collected, the peak hour for AM analysis for the network was determined to be 8:30 AM – 9:30 AM on Thursday. The peak hour for PM analysis for the network was determined to be 5:00 PM – 6:00 PM on Thursday. The peak hours were determined by comparing the total vehicle volume at the two signalized intersections for each 15-minute period of each day.

The *Synchro 10* software was used to analyze the level of service and delays and the *SimTraffic 10* software was used to analyze the queue lengths for existing weekday AM and PM peak hours. The existing conditions levels of service, delays, and queue lengths are shown in Table 3. The *Synchro 10* and *SimTraffic 10* results are included in Appendix H.

FIGURE 1: 2018 EXISTING TURNING MOVEMENTS



LEGEND

xx/xx: AM/PM Peak Hour Traffic
xx/xx: AM/PM Peak Hour Pedestrians

FIGURE 2: HEAVY VEHICLE PERCENTAGES

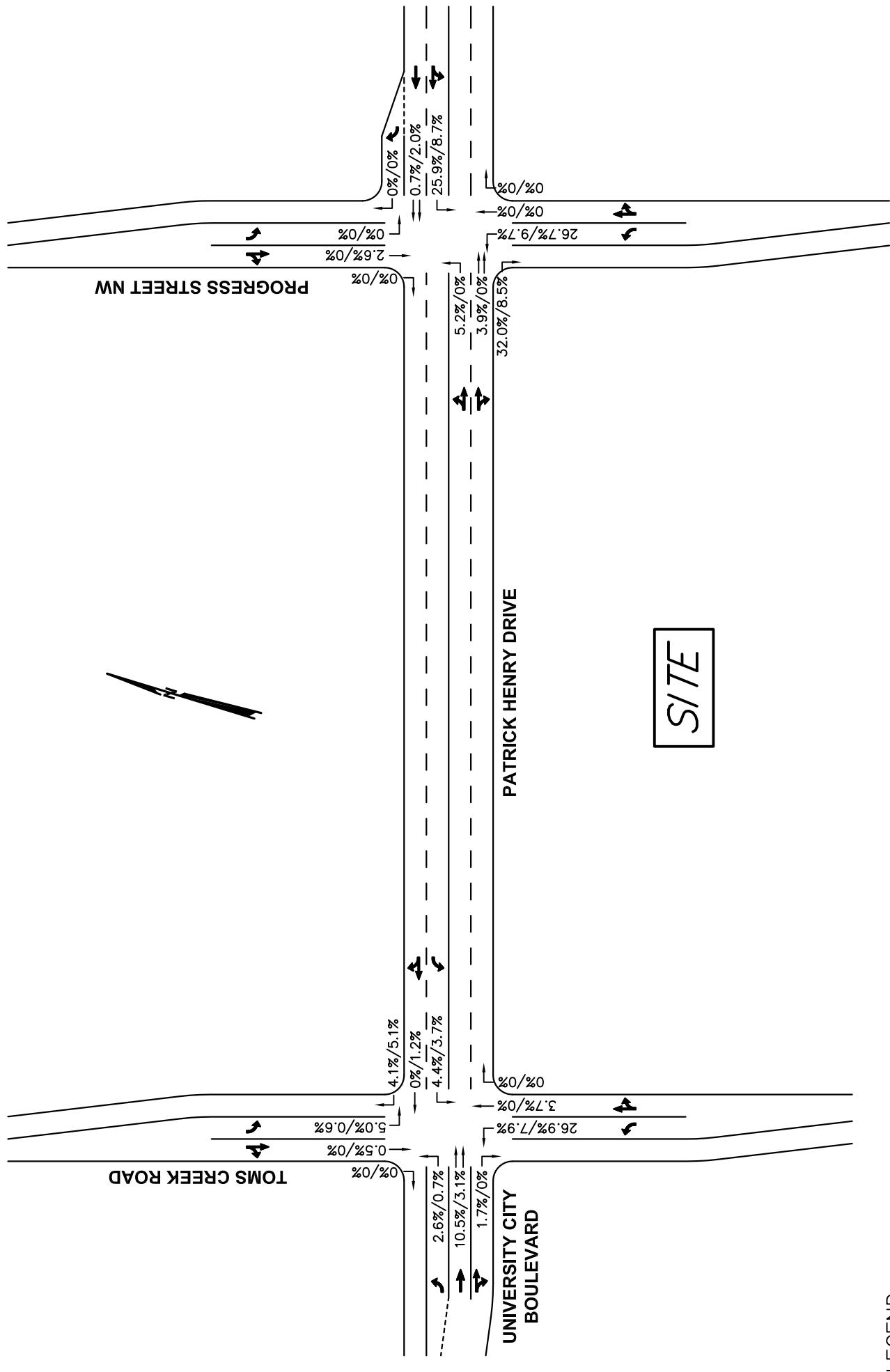


Table 2 - 2018 Existing Condition
Terrace View - Blacksburg, VA
Intersection Level of Service and Queuing Analysis

Intersection	Control	Approach	Available Storage (ft)	Levels of Service		Average Queues (ft)		Max Queues (ft)	
				AM	PM	AM	PM	AM	PM
1. Patrick Henry Drive & Toms Creek Road	Signal	EBL	100	B (18.6)	C (22.3)	24	77	65	144
		EBT	--	C (21.2)	C (23.5)	48	90	110	193
		EBTR	150	C (21.5)	C (23.6)	36	63	82	147
		WBL	--	B (15.7)	B (18.3)	73	93	161	258
		WBTR	--	C (21.7)	D (41.5)	99	249	210	470
		NBL	90	B (14.6)	B (19.6)	23	61	87	100
		NBTR	--	B (17.1)	C (30.2)	60	223	144	410
		SBL	100	B (13.6)	C (21.3)	52	83	124	125
		SBTR	--	B (17.4)	C (23.2)	93	118	217	267
		Overall		B (18.2)	C (27.8)				
2. Patrick Henry Drive & Progress Street	Signal	EBLT	--	C (25.2)	C (26.1)	51	100	109	171
		EBTR	--	C (24.8)	C (25.4)	56	116	125	192
		WBLT	--	B (16.8)	C (23.8)	75	137	183	248
		WBT	--	B (16.5)	C (23.3)	32	88	121	204
		WBR	150	B (14.8)	B (19.6)	3	8	28	34
		NBL	80	C (27.8)	C (34.2)	25	50	64	96
		NBTR	--	C (21.5)	C (25.7)	16	43	48	136
		SBL	140	C (23.7)	C (28.6)	1	5	23	29
		SBTR	--	C (21.8)	C (24.5)	34	22	92	59
		Overall		C (20.8)	C (25.3)				

Notes:

- (1) Numbers in parentheses represent control delay in seconds per vehicle as reported by Synchro.
- (2) Queues are average and 95th percentile queues as reported by SimTraffic with 10 recording intervals of 60 minutes.

3. ANALYSIS OF FUTURE CONDITIONS WITHOUT DEVELOPMENT

It is anticipated that the proposed development will be constructed and in use within 2 years, or in the year 2020. To analyze the future conditions and obtain the projected background traffic volumes, an annual growth factor was applied to the existing traffic volumes. Per discussions with the Town of Blacksburg, a growth rate of 0.5% was utilized to determine background traffic volumes. Figure 3 graphically depicts the projected traffic in 2020 with the growth rate applied.

Table 4 provides a summary of the levels of service, delays, and queue lengths for the 2018 background condition. The *Synchro 10* and *SimTraffic 10* output can be found in Appendix H.

FIGURE 3: 2020 BACKGROUND TURNING MOVEMENTS

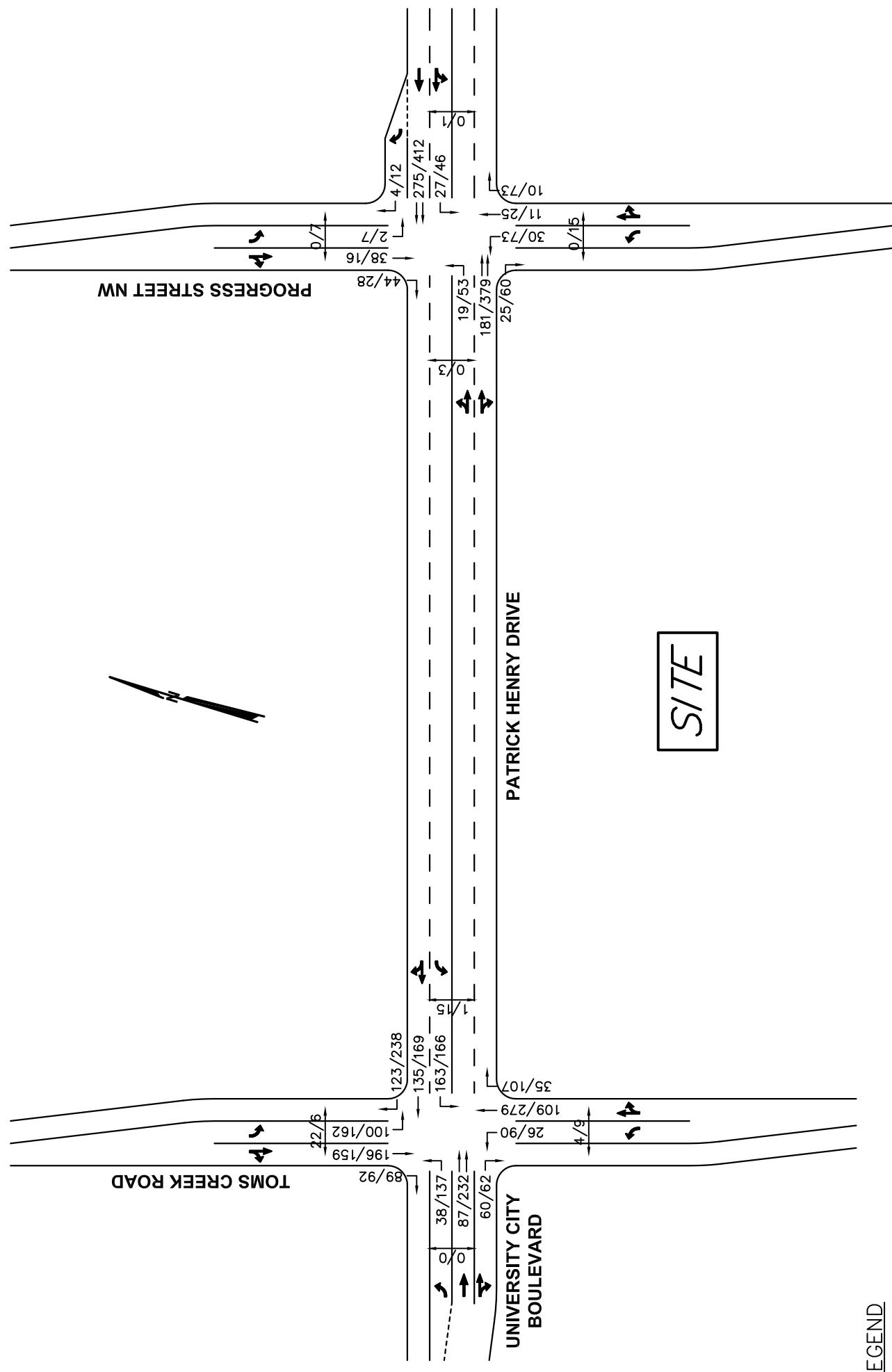


Table 3 - 2020 Background Condition
Terrace View - Blacksburg, VA
Intersection Level of Service and Queuing Analysis

Intersection	Control	Approach	Available Storage (ft)	Levels of Service		Average Queues (ft)		Max Queues (ft)	
				AM	PM	AM	PM	AM	PM
1. Patrick Henry Drive & Toms Creek Road	Signal	EBL	100	B (18.6)	C (22.6)	25	78	69	148
		EBT	--	C (21.2)	C (23.7)	50	88	117	183
		EBTR	150	C (21.5)	C (23.8)	37	64	99	152
		WBL	--	B (15.7)	B (18.4)	72	92	153	248
		WBTR	--	C (21.7)	D (42.4)	98	242	217	478
		NBL	90	B (14.7)	B (19.7)	21	63	84	100
		NBTR	--	C (17.1)	C (30.6)	58	219	140	417
		SBL	100	B (13.6)	C (21.6)	52	83	121	125
		SBTR	--	B (17.5)	C (23.5)	96	114	238	283
		Overall		B (18.3)	C (28.2)				
2. Patrick Henry Drive & Progress Street	Signal	EBLT	--	C (25.2)	C (26.1)	50	102	105	183
		EBTR	--	C (24.8)	C (25.4)	53	115	117	195
		WBLT	--	B (16.8)	C (24.0)	71	136	137	249
		WBT	--	B (16.6)	C (23.4)	29	88	106	217
		WBR	150	B (14.8)	B (19.6)	2	9	30	38
		NBL	80	C (27.8)	C (34.5)	24	51	60	96
		NBTR	--	C (21.5)	C (25.8)	15	45	55	138
		SBL	140	C (23.7)	C (28.7)	2	6	23	33
		SBTR	--	C (21.8)	C (24.6)	31	20	88	60
		Overall		C (20.8)	C (25.4)				

Notes:

(1) Numbers in parentheses represent control delay in seconds per vehicle as reported by Synchro.

(2) Queues are average and 95th percentile queues as reported by SimTraffic with 10 recording intervals of 60 minutes.

4. TRIP GENERATION

Trip generation for this study was based on the concept plan created by Balzer and Associates, Inc. (please see Appendix B) and information provided by the developer regarding the expected uses of the property. The policies and procedures found in the Institute of Transportation Engineers (ITE) *Trip Generation Manual, 10th Edition*, were employed to determine the potential site generated traffic volumes for the proposed development in the AM and PM peak hours.

For the off-campus student apartment use, trips were based on the total number of bedrooms. The projected trips were calculated using the equations and directional splits provided in the ITE Manual for student apartments over ½ mile from campus. The equations and directional splits are listed below:

<u>Time Period:</u>	<u>Equation:</u>	<u>% Entering / % Exiting:</u>
Weekday	$T = 4.09(X) - 78.98$	50% Enter / 50% Exit
AM Peak Hr of Adj. Traffic	$T = 0.15(X) + 10.64$	28% Enter / 72% Exit
PM Peak Hr of Adj. Traffic	$T = 0.31(X) - 1.81$	52% Enter / 48% Exit

As there is existing development to remain that will utilize the proposed access points, it is important that this development be included in the turn lane analyses (see Section 6 of this report). Based on a map of the area and information provided by the developer, the development that will remain and have access from Hunt Club Road consists of off-campus student apartments consisting of a total of 674 bedrooms. The trip generation calculations for these existing units is shown below in Table 4. This area is shown on the map as Phases IV, V, and VII. The map and the bedroom counts, as provided by the developer, are included with this report in Appendix E.

			Trip Generation						
Land Use			AM Peak Hour			PM Peak Hour			Weekday
Proposed Development	ITE Code	Independent Variable	Enter	Exit	Total	Enter	Exit	Total	Total
Off Campus Student Apartments	225	674 Bedrooms	31	81	112	108	99	207	2,678

Table 4: Site-Generated Traffic – Existing Development to Remain

			Trip Generation						
Land Use			AM Peak Hour			PM Peak Hour			Weekday
Proposed Development	ITE Code	Independent Variable	Enter	Exit	Total	Enter	Exit	Total	Total
Off Campus Student Apartments - Proposed	225	1,521 Bedrooms	67	172	239	244	226	470	6,142
Off Campus Student Apartments - Existing	225	533 Bedrooms	25	66	91	85	78	163	2,116
Total Net Increase		988 Bedrooms	42	106	148	159	148	307	4,026

Table 5: Existing and Proposed Site-Generated Traffic

Based on knowledge of the area, it is anticipated that there will be significant usage of alternate means of transportation by residents of this development, including walking, bicycling, and bus via the Blacksburg Transit (BT). The BT is a particularly heavily used form of transportation, especially for trips to and from the Virginia Tech campus. It should be noted that the developer has already had discussions with the BT regarding this development and it is anticipated that additional or more frequent stops will be added in this area to accommodate the additional students that will be served by this development.

A survey was given to the existing residents of Terrace View to attempt to quantify how often alternate means of transportation are being used. 620 responses were received, and the data shows that 50% of residents do not drive to class and only 30% of residents drive every day. In addition, 70% of residents reported riding the bus. Based on this data, a 50% trip reduction has been deemed appropriate to account for trips using alternate modes of transportation. Based on the data from the survey, this could be considered a conservative reduction to take. Tables 6 and 7 show the site-generated trips with the 50% reduction. The resident survey is included with this study in Appendix F.

			Trip Generation						
Land Use			AM Peak Hour			PM Peak Hour			Weekday
Proposed Development	ITE Code	Independent Variable	Enter	Exit	Total	Enter	Exit	Total	Total
Off Campus Student Apartments	225	674 Bedrooms	16	40	56	54	50	104	1,339

Table 6: Site-Generated Traffic – Existing Development to Remain (With 50% Reduction)

			Trip Generation						
Land Use			AM Peak Hour			PM Peak Hour			Weekday
Proposed Development	ITE Code	Independent Variable	Enter	Exit	Total	Enter	Exit	Total	Total
Off Campus Student Apartments - Proposed	225	1,521 Bedrooms	34	86	120	122	113	235	3,071
Off Campus Student Apartments - Existing	225	533 Bedrooms	13	33	46	43	39	82	1,058
Total Net Increase		988 Bedrooms	21	53	74	79	74	153	2,013

Table 7: Existing and Proposed Site-Generated Traffic (With 50% Reduction)

5. SITE TRAFFIC DISTRIBUTION AND ASSIGNMENT

The distribution of potential site generated traffic was completed by observing the directional splits from the traffic counts and by applying engineering judgment based on knowledge of the proposed uses, as well as the surrounding area. The directional percentages were then applied to the site generated traffic to determine the ingress/egress movements for each direction.

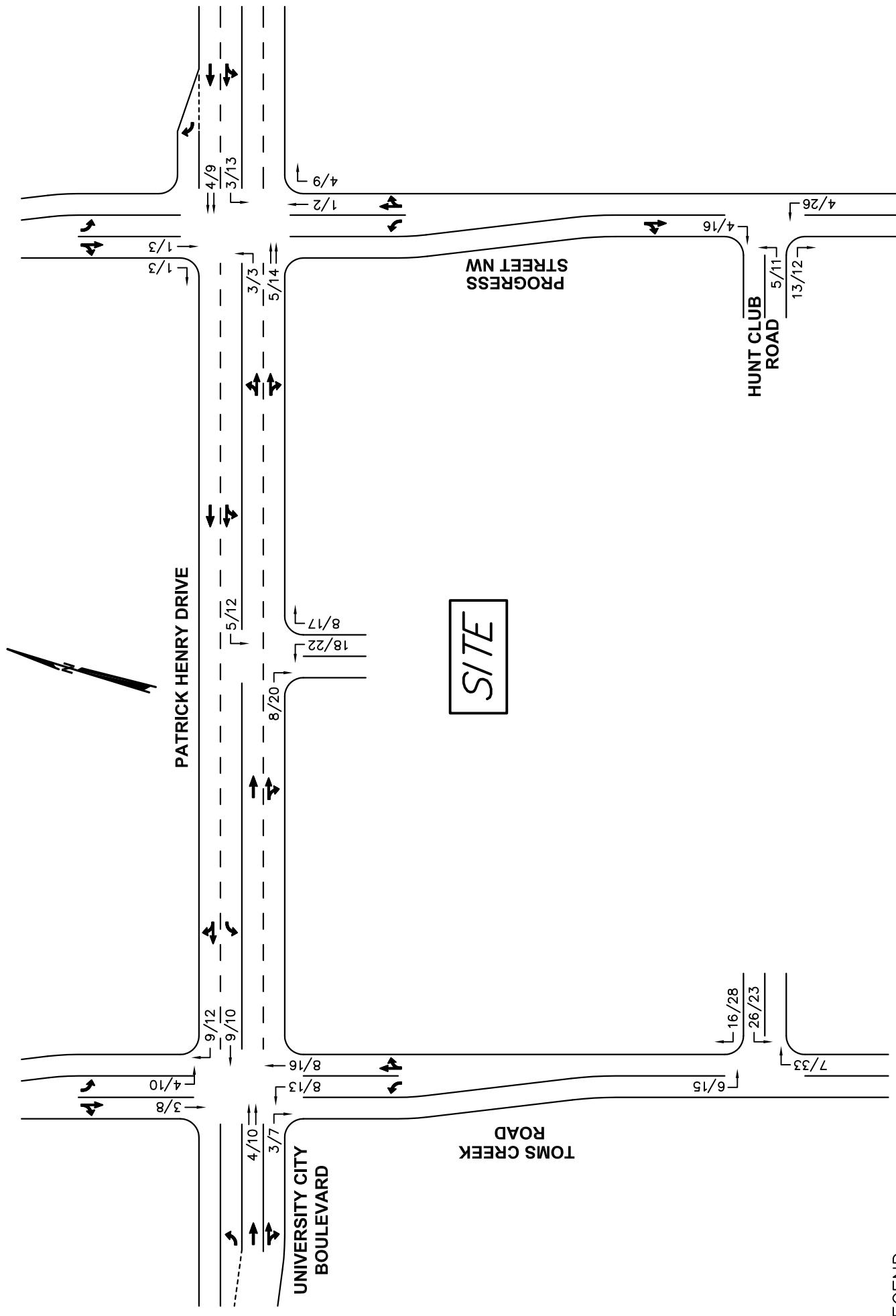
This development is proposed to have three main access points to the surrounding road network. There will be one access point onto Patrick Henry Drive, one access point onto Toms Creek Road, and one access point onto Progress Street.

In the AM peak hour, it was assumed that 38% of traffic will enter from Toms Creek Road, 38% of traffic will enter from Patrick Henry Drive, and 24% of traffic will enter from Progress Street. It was assumed that 49% of traffic will exit to Toms Creek Road, 30% of traffic will exit to Patrick Henry Drive, and 21% of traffic will exit to Progress Street.

In the PM peak hour, it was assumed that 39% of traffic will enter from Toms Creek, 26% of traffic will enter from Patrick Henry Drive, and 35% of traffic will enter from Progress Street. It was assumed that 45% of traffic will exit to Toms Creek Road, 35% of traffic will exit to Patrick Henry Drive, and 20% of traffic will exit to Progress Street.

Traffic assignment for the site-generated traffic is shown graphically in Figure 4. As shown in Table 5, a portion of these trips will be offset by existing development that will be removed. Therefore, an adjustment was applied to these volumes to ensure that only new trips are being added to the network. The adjusted volumes are shown graphically in Figure 5.

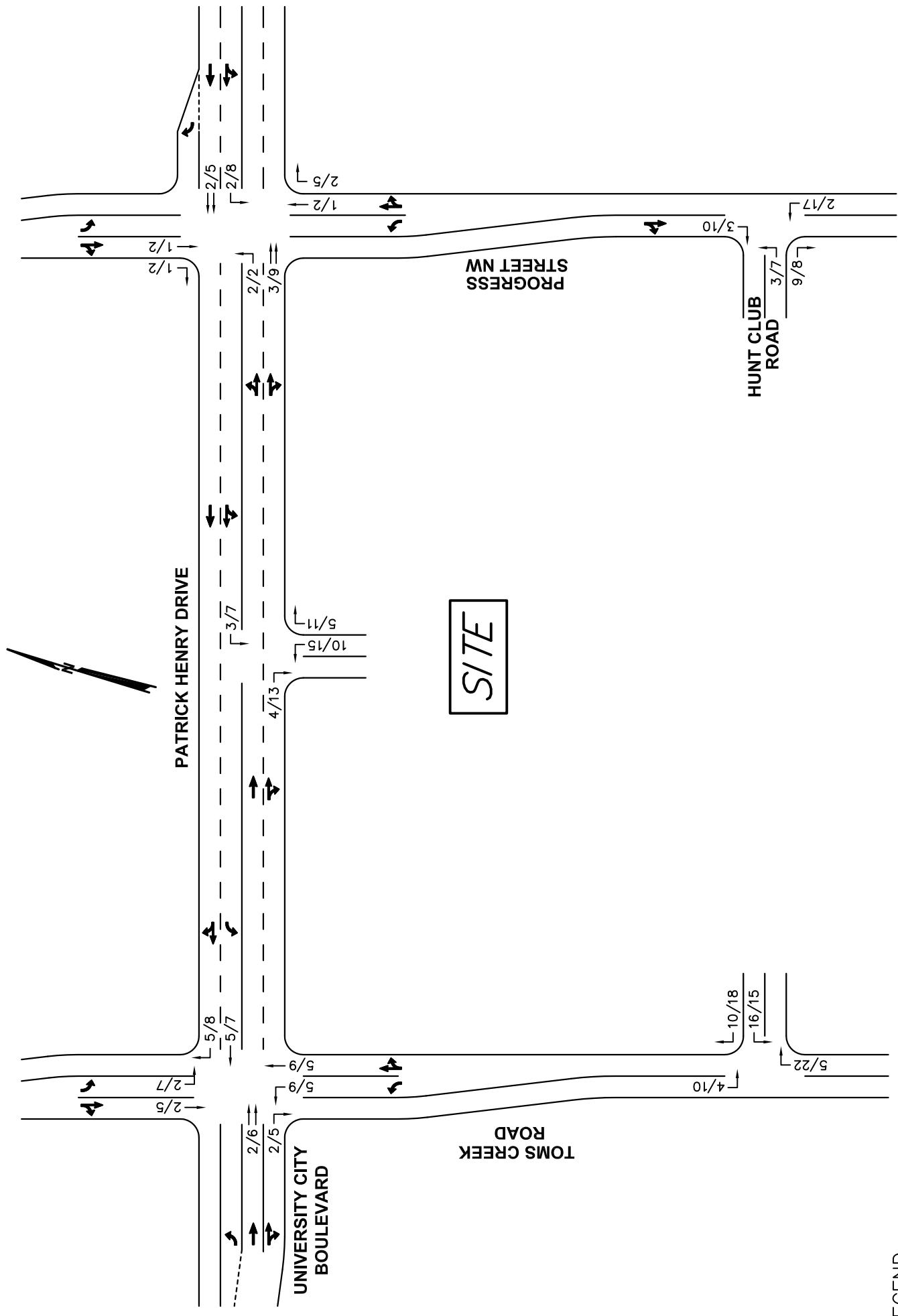
FIGURE 4: TRIP GENERATION - PROPOSED DEVELOPMENT



LEGEND

xx/xx: AM/PM Peak Hour Traffic

FIGURE 5: TRIP GENERATION - PROPOSED DEVELOPMENT (ADJUSTED)



LEGEND

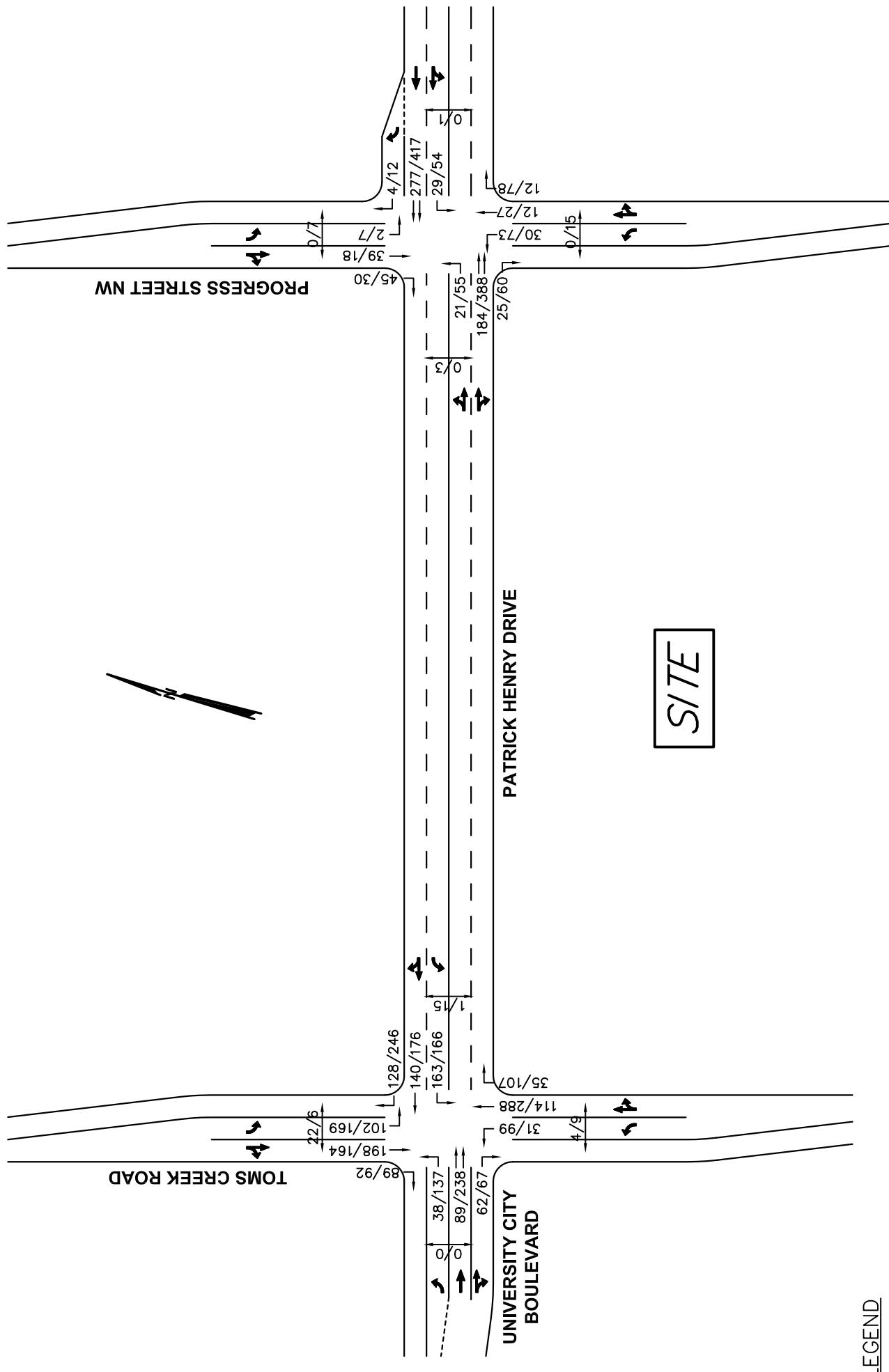
xx/xx: AM/PM Peak Hour Traffic

6. ANALYSIS OF FUTURE CONDITIONS WITH DEVELOPMENT

The buildout traffic was calculated by adding the 2020 background traffic (Figure 3) to the adjusted traffic from the proposed development (Figure 5). The 2020 buildout traffic for the signalized intersections is shown in Figure 6. The intersections were then modeled and evaluated using the *Synchro* and *SimTraffic* software. Table 9 provides a summary of the levels of service, delays, and queue lengths for the 2020 buildout condition. The *Synchro 10* and *SimTraffic 10* output can be found in Appendix H.

As shown in Table 9, the intersections will continue to function at an acceptable level of service with the projected background volumes and the site-generated traffic. The intersection at Toms Creek Road and Patrick Henry Drive will have an overall LOS 'B' in the AM and an overall LOS 'C' in the PM peak hour. The intersection at Patrick Henry Drive and Progress Street will have an overall LOS 'C' in both the AM and PM peak hours. The levels of service do not change from Background to Buildout conditions. There will be very minimal increases in overall control delay as a result of the proposed development and no signal improvements are recommended as a result of this development.

FIGURE 6: 2020 BUILDOUT TURNING MOVEMENTS



LEGEND

xx/xx: AM/PM Peak Hour Traffic
 xx/xx: AM/PM Peak Hour Pedestrians

Table 8 - 2020 Buildout Condition
Terrace View - Blacksburg, VA
Intersection Level of Service and Queuing Analysis

Intersection	Control	Approach	Available Storage (ft)	Levels of Service		Average Queues (ft)		Max Queues (ft)	
				AM	PM	AM	PM	AM	PM
1. Patrick Henry Drive & Toms Creek Road	Signal	EBL	100	B (18.7)	C (23.3)	26	77	69	147
		EBT	--	C (21.3)	C (24.1)	48	94	110	200
		EBTR	150	C (21.6)	C (24.2)	35	72	88	167
		WBL	--	B (15.7)	B (18.7)	75	92	173	309
		WBTR	--	C (22.1)	D (45.8)	104	280	226	575
		NBL	90	B (14.6)	C (20.3)	25	63	84	100
		NBTR	--	B (17.2)	C (32.2)	62	232	138	435
		SBL	100	B (13.7)	C (22.6)	49	84	115	125
		SBTR	--	B (17.8)	C (24.4)	95	120	211	267
		Overall		B (18.5)	C (29.7)				
2. Patrick Henry Drive & Progress Street	Signal	EBLT	--	C (25.3)	C (26.2)	51	103	107	199
		EBTR	--	C (24.8)	C (25.5)	56	117	127	217
		WBLT	--	B (17.0)	C (24.4)	79	139	167	236
		WBT	--	B (16.7)	C (23.8)	32	90	104	194
		WBR	150	B (14.9)	B (19.8)	2	7	23	31
		NBL	80	C (27.7)	C (34.6)	24	51	71	95
		NBTR	--	C (21.6)	C (26.2)	16	45	55	118
		SBL	140	C (23.8)	C (28.8)	2	6	20	33
		SBTR	--	C (22.0)	C (24.8)	35	21	95	55
		Overall		C (20.9)	C (25.7)				

Notes:

- (1) Numbers in parentheses represent control delay in seconds per vehicle as reported by Synchro.
- (2) Queues are average and 95th percentile queues as reported by SimTraffic with 10 recording intervals of 60 minutes.

TURN LANE REQUIREMENTS

Turn lane requirements were analyzed at the intersection of Toms Creek Road and Hunt Club Road and at the intersection of Patrick Henry Drive and Snyder Lane. Turn lane requirements were evaluated by following the procedures and methodologies found in the *VDOT Road Design Manual, Volume I, Appendix F*.

It should be noted that there are several apartment buildings that access from Hunt Club Road that will remain after this development is completed. In order to accurately determine turn lane requirements, these volumes must be included in the turn lane warrants.

Total turning volumes were obtained from adding the volumes in Figure 4 representing the unadjusted volumes generated by the proposed development to the volumes in Figure 7 representing the volumes from the existing development to remain. The total turning volumes at the main access points including the existing and proposed development are shown in Figure 8. The approach volumes and opposing volumes were derived from the background volumes shown in Figure 3.

Toms Creek Road - Right-Turn Lane Warrant at Hunt Club Road

AM Peak Hour Analysis:

- 11 Vehicles per Hour Turning Right from Toms Creek Road
- Approach Volume = 170 VPH + 5 VPH (from Figure 5) = 175 VPH
- Right Turn Lane Requirement, as per *VDOT Road Design Manual, Appendix F*:
None Warranted (please see Appendix G).

PM Peak Hour Analysis:

- 46 Vehicles per Hour Turning Right from Toms Creek Road
- Approach Volume = 476 VPH + 22 VPH (from Figure 5) = 498 VPH
- Right Turn Lane Requirement, as per *VDOT Road Design Manual, Appendix F*:
Taper Warranted (please see Appendix G).

Toms Creek Road - Left-Turn Lane Warrant at Hunt Club Road

AM Peak Hour Analysis:

- 12 (2.8%) Vehicles per Hour Turning Left from Toms Creek Road
- Advancing Volume = 419 VPH + 4 VPH (from Figure 5) = 423 VPH
- Opposing Volume = 175 VPH
- Left Turn Lane Requirement, as per *VDOT Road Design Manual, Appendix F*:
None Warranted (please see Appendix G).

PM Peak Hour Analysis:

- 26 (6.5%) Vehicles per Hour Turning Left from Toms Creek Road
- Advancing Volume = 387 VPH + 10 VPH (from Figure 5) = 397 VPH
- Opposing Volume = 500 VPH
- Left Turn Lane Requirement, as per *VDOT Road Design Manual, Appendix F*:
None Warranted (please see Appendix G).

Patrick Henry Drive - Right-Turn Lane Warrant at Snyder Lane

AM Peak Hour Analysis:

- 9 Vehicles per Hour Turning Right from Patrick Henry Drive
- Approach Volume = 222 VPH + 4 VPH (from Figure 5) = 226 VPH
- Right Turn Lane Requirement, as per *VDOT Road Design Manual, Appendix F*:
None Warranted (please see Appendix G).

PM Peak Hour Analysis:

- 23 Vehicles per Hour Turning Right from Patrick Henry Drive
- Approach Volume = 501 VPH + 13 VPH (from Figure 5) = 51 VPH
- Right Turn Lane Requirement, as per *VDOT Road Design Manual, Appendix F*:
None Warranted (please see Appendix G).

Patrick Henry Drive - Left-Turn Lane Warrant at Snyder Lane

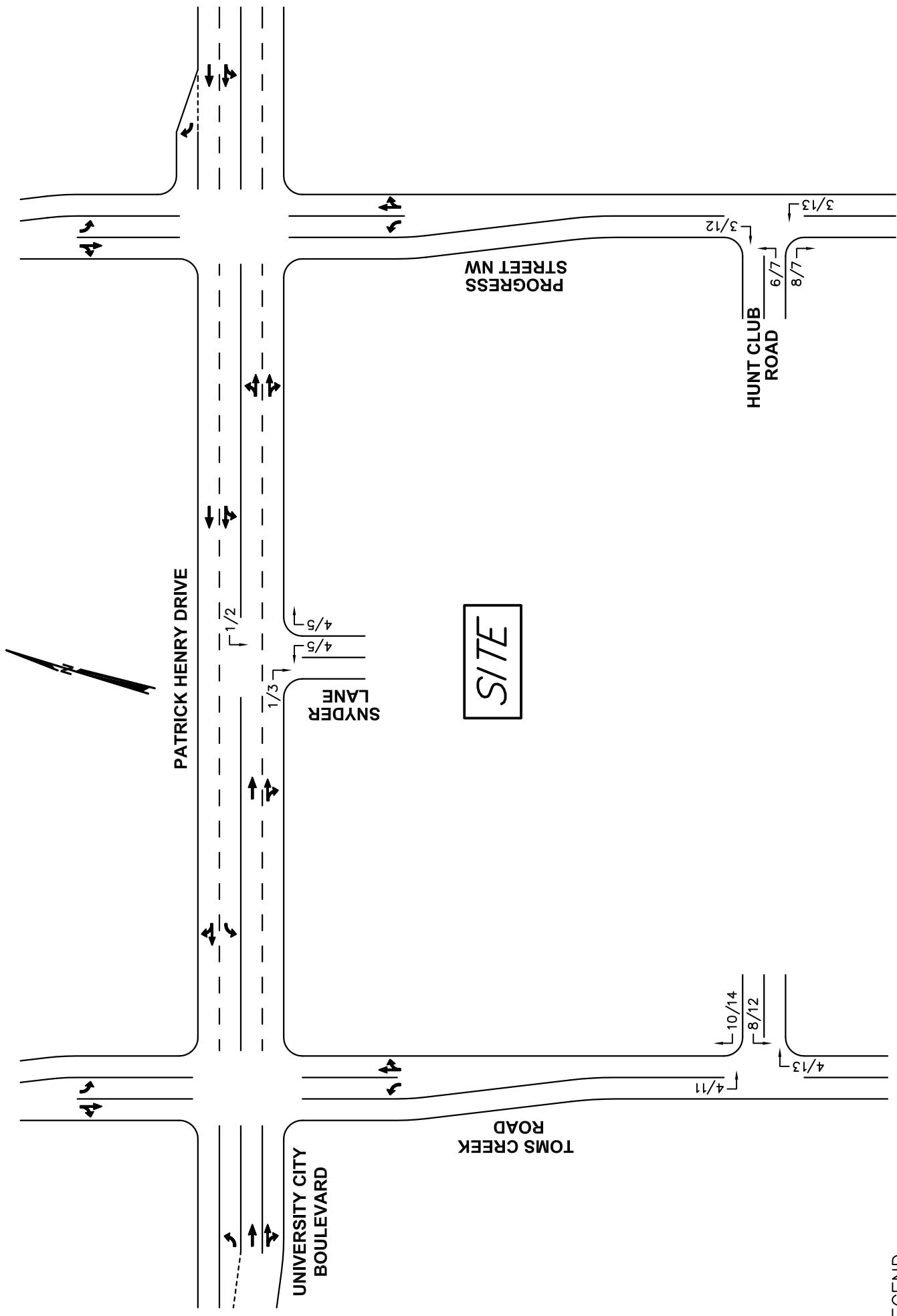
AM Peak Hour Analysis:

- 6 Vehicles per Hour Turning Left from Patrick Henry Drive
- Opposing Volume = 227 VPH
- Left Turn Lane Requirement, as per *VDOT Road Design Manual, Appendix F*:
None Warranted (please see Appendix G).

PM Peak Hour Analysis:

- 14 Vehicles per Hour Turning Left from Patrick Henry Drive
- Opposing Volume = 519 VPH
- Left Turn Lane Requirement, as per *VDOT Road Design Manual, Appendix F*:
None Warranted (please see Appendix G).

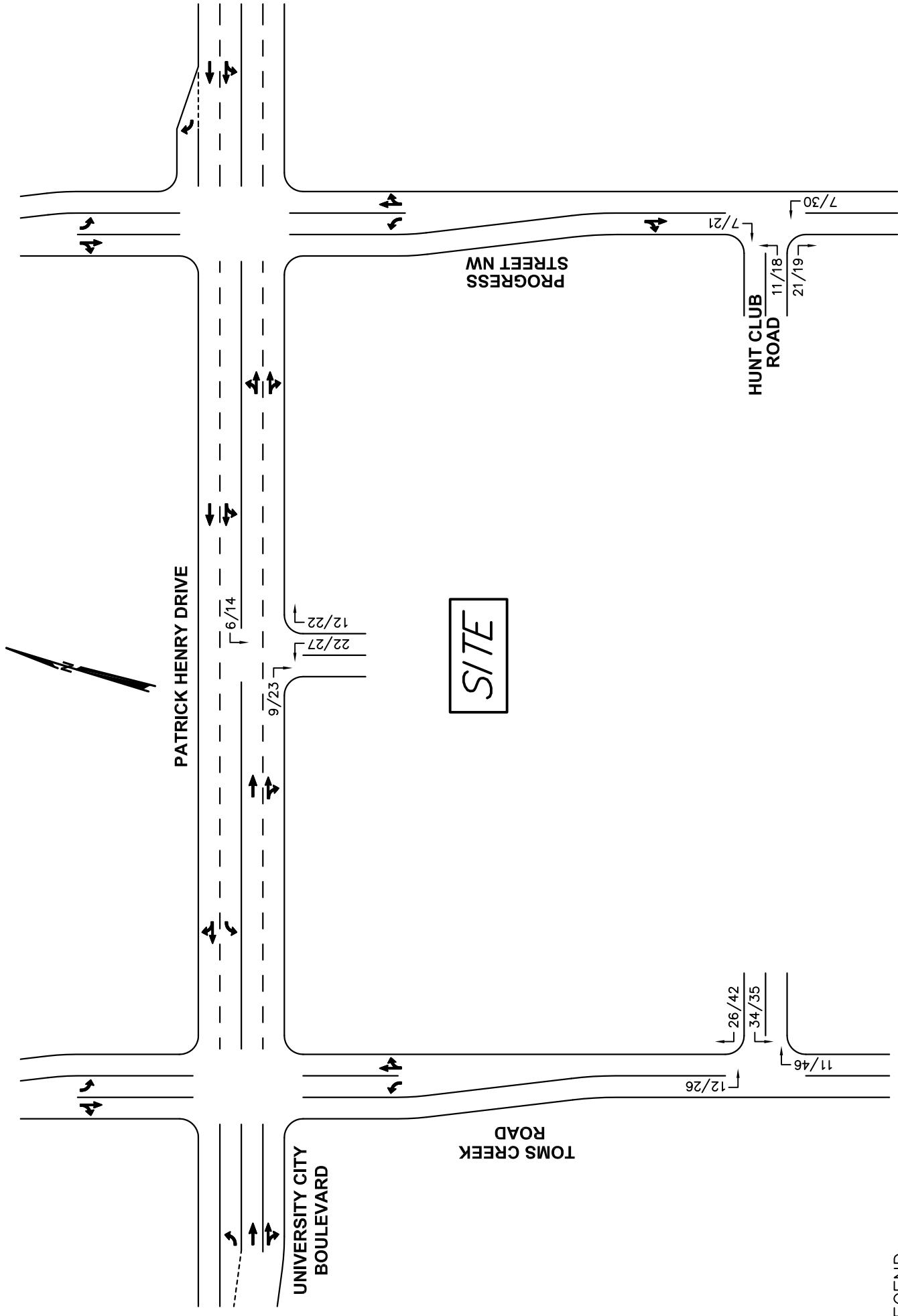
FIGURE 7: TRIP GENERATION - EXISTING DEVELOPMENT TO REMAIN



LEGEND

xx/xx: AM/PM Peak Hour Traffic

FIGURE 8: TRIP GENERATION - EXISTING AND PROPOSED DEVELOPMENT



LEGEND

xx/xx: AM/PM Peak Hour Traffic
xx/xx: Existing Traffic

7. CONCLUSIONS

Based on the data collected, the assumptions made, and the potential site generated traffic, the results of the analysis are:

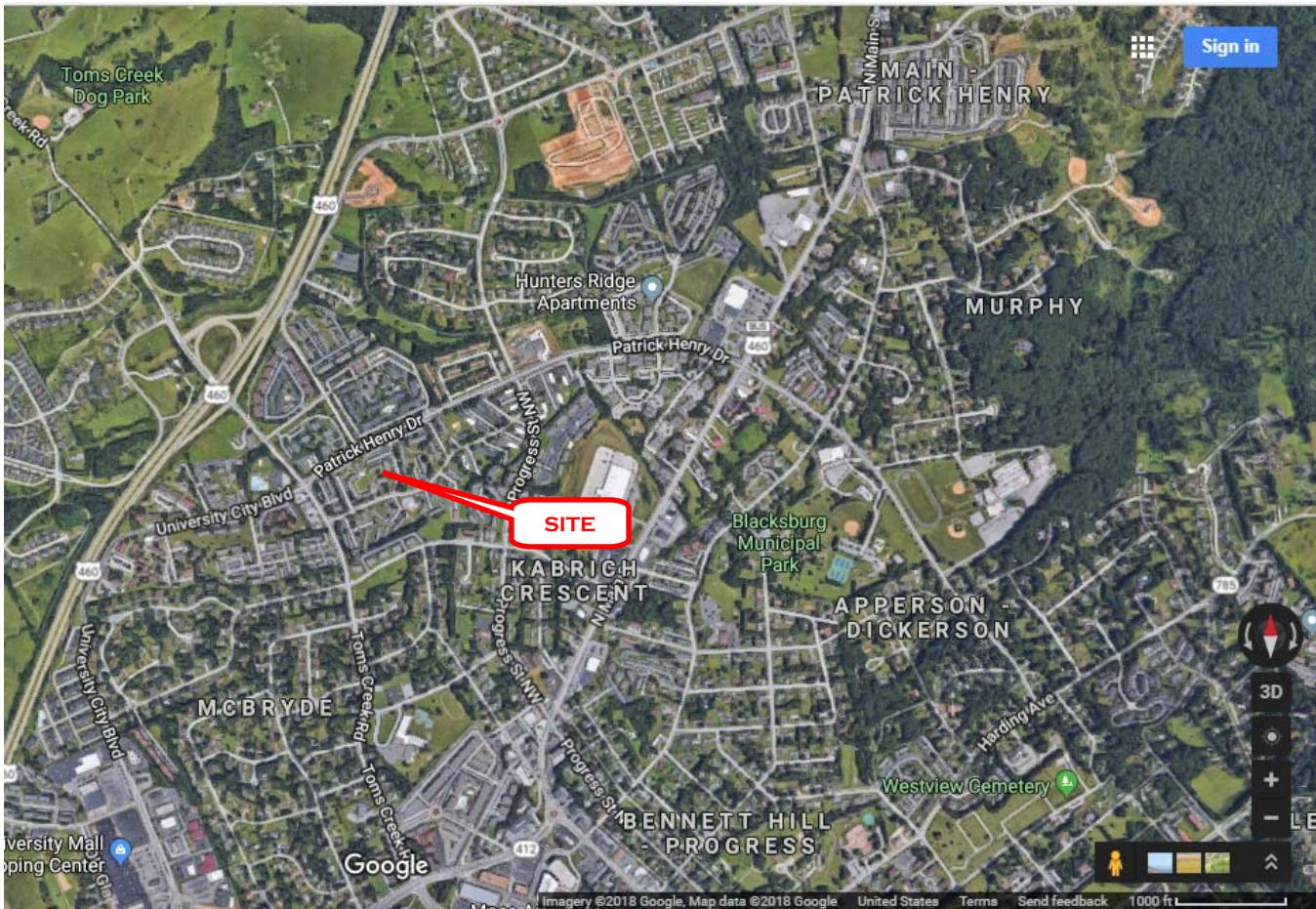
- the proposed project will increase traffic at the existing intersections and on the surrounding road network;
- traffic volume increases at the existing intersections will not significantly impact level of service or delay at the existing intersections;
- the existing intersections operate at an acceptable LOS with the projected background traffic volumes and will continue to do so with the site-generated traffic volumes included;
- no signal timing modifications are recommended at the existing intersections;
- and a right turn taper is warranted on Toms Creek Road at Hunt Club Road. Per the VDOT Road Design Manual, the recommended length of the taper is 100' in this urban location based on the speed limit. In order to provide adequate space for a Blacksburg Transit (BT) bus, it is recommended that a 50' turn lane and 50' taper be provided in this location.

Appendix A

Vicinity Map

Traffic Study
Terrace View – Blacksburg, VA
May 1, 2018





Traffic Study
Terrace View – Blacksburg, VA
May 1, 2018

BALZER
BALZER ASSOCIATES INC.
GTNED
REFLECTING TOMORROW

Appendix B

Concept Plan

Traffic Study
Terrace View – Blacksburg, VA
May 1, 2018



Appendix C

Existing Traffic Data

Virginia Department of Transportation
Traffic Engineering Division

2017

Annual Average Daily Traffic Volume Estimates By Section of Route
Town of Blacksburg

Route	Length	AADT	QA	4Tire	Bus	Truck				QC	K Factor	Dir Factor	AAWDT	QW	Year
						2Axle	3+Axle	1Trail	2Trail						
Town of Blacksburg															
(F618) Holiday Lane	0.03	40	R			End State Maintenance				NA		NA		NA	05/08/2013
(F618) Holiday Lane	0.09	120	R			SCL Blacksburg				NA		NA		NA	05/08/2013
(2) University City Blvd	1.11	8800	G	98%	2%	0%	0%	0%	0%	C	0.106	0.555	9300	G	2017
(2) University City Blvd						Prices Fork Rd									
(2) University City Blvd						Toms Creek Rd									
(3) Givens Lane	1.57	1300	G	98%	1%	0%	0%	0%	0%	C	0.104	0.5	1300	G	2017
(3) Givens Lane						150-3159 Chickahominy Dr									
(3) Givens Lane						Bus US 460 North Main St									
(4) Progress St	0.64	3800	G	98%	0%	1%	0%	0%	0%	F	0.09	0.529	4000	G	2017
(4) Progress St						Bus US 460, N Main St									
(4) Progress St	0.51	1100	G	98%	0%	1%	0%	0%	0%	C	0.109	0.759	1200	G	2017
(4) Progress St						150-3165 Patrick Henry Dr									
(4) Progress St						Cherokee Dr									
(4) Progress St	0.01	250	G	98%	0%	1%	0%	0%	0%	F	0.153	0.507	270	G	2017
(4) Progress St						Northside Dr									
(4) Progress St						Dead End									
(5) Clay St	0.92	2700	G	99%	0%	0%	0%	0%	0%	C	0.101	0.63	2900	G	2017
(5) Clay St						Bus US 460									
(5) Clay St						ECL Blacksburg; 60-1235, Floyd St									
(3150) Airport Rd	0.23	5500	G	99%	0%	0%	0%	0%	0%	F	0.119	0.620	5800	G	2017
(3150) Airport Rd						Southgate Dr									
(3150) Country Club Dr	0.40	4300	G	99%	0%	0%	0%	0%	0%	C	0.119	0.620	4500	G	2017
(3150) Country Club Dr						Country Club Dr									
(3151) Ellett Rd	0.71	5500	G	98%	1%	0%	0%	0%	0%	C	0.096	0.595	5800	G	2017
(3151) Ellett Rd						SCL Blacksburg									
(3151) Ellett Rd						S Main St									
(3152) Prices Fork Rd	0.75	14000	G	98%	1%	1%	0%	0%	0%	C	0.133	0.509	15000	G	2017
(3152) Prices Fork Rd						WCL Blacksburg									
(3152) Prices Fork Rd	0.36	17000	G	98%	1%	1%	0%	0%	0%	F	0.114	0.524	18000	G	2017
(3152) Prices Fork Rd						Hethwood Blvd									
(3152) Prices Fork Rd	0.58	24000	G	98%	1%	1%	0%	0%	0%	F	0.1	0.558	26000	G	2017
(3152) Prices Fork Rd						Heather Dr									
(3152) Prices Fork Rd						US 460									
(3153) Airport Rd	0.37	2000	G	98%	1%	1%	0%	0%	0%	C	0.129	0.629	2100	G	2017
(3153) Airport Rd						Southgate Dr									
(3153) Airport Rd						Main Street									
(3154) Glade Rd	1.55	1100	G	98%	1%	1%	0%	0%	0%	C	0.111	0.61	1100	G	2017
(3154) Glade Rd						WCL Blacksburg									
(3154) Glade Rd	0.46	1500	G	99%	0%	1%	0%	0%	0%	C	0.103	0.584	1600	G	2017
(3154) Glade Rd						Boxwood Dr									
(3154) Glade Rd	0.33	4500	G	99%	0%	1%	0%	0%	0%	F	0.104	0.65	4800	G	2017
(3154) Glade Rd						Oriole Dr									
(3154) Glade Rd						University City Blvd									
(3156) Roanoke St	0.49	5100	G	98%	0%	2%	0%	0%	0%	C	0.1	0.568	5500	G	2017
(3156) Roanoke St						Main St									
(3156) Owen St	0.11	4400	G	98%	0%	2%	0%	0%	0%	C	0.104	0.567	4700	G	2017
(3156) Owen St						Owen St									
(3156) Harding Ave	0.11	4600	G	97%	0%	2%	0%	0%	0%	C	0.105	0.587	4900	G	2017
(3156) Harding Ave						Cork Dr									

Virginia Department of Transportation
Traffic Engineering Division

2017

Annual Average Daily Traffic Volume Estimates By Section of Route
Town of Blacksburg

Route	Length	AADT	QA	4Tire	Bus	Truck				QC	K Factor	Dir Factor	AAWDT	QW	Year
						2Axle	3+Axle	1Trail	2Trail						
Town of Blacksburg															
(3156) Harding Ave	0.66	3800	G	97%	0%	2%	0%	0%	0%	F	0.096	0.589	4000	G	2017
			From:	Cork Dr						To:	ECL Blacksburg				
(3159) Tom's Creek Rd	1.08	9400	G	98%	1%	0%	0%	1%	0%	C	0.093	0.502	10000	G	2017
			From:	Prices Fork Rd						To:	US 460				
(3164) Mt Tabor Rd	0.92	2900	G	98%	1%	0%	0%	0%	0%	C	0.101	0.569	3100	G	2017
			From:	US 460 Bus						To:	NCL Blacksburg				
(3165) Patrick Henry Dr	0.79	3800	G	99%	0%	0%	0%	0%	0%	C	0.117	0.527	4100	G	2017
			From:	Harding Ave						To:	Bus US 460				
(3165) Patrick Henry Dr	0.83	8900	G	99%	0%	0%	0%	0%	0%	F	0.098	0.522	9500	G	2017
			From:	Toms Creek Rd						To:	Progress St NW				
Alumni Mall	2800	2800	G	88%	8%	3%	1%	1%	0%	C	0.106	0.512	2800	G	2017
			From:	Drillfield Dr						To:	Main St				
Apperson Dr	150	150	G								0.137	0.591	150	G	2017
			From:	Mason Drive						To:	Harding Avenue				
College Ave	NA	NA		Otey St							NA				
			To:	Draper Rd							NA				
Commuter Lot Entrance	4100	4100	G	99%	0%	1%	0%	0%	0%	C	0.119	0.82	4100	G	2017
			From:	Prices Fork Rd						To:	Commuter Lot				
Country Club Dr	640	640	G	98%	0%	2%	0%	0%	0%	C	0.151	0.51	640	G	2017
			From:	Dead End						To:	Airport Rd				
County Club Dr	4200	4200	G	100%	0%	0%	0%	0%	0%	C	0.126	0.6	4200	G	2017
			From:	Draper Rd						To:	US 460 Main St				
Draper Rd	240	240	G								0.172		260	G	2017
			From:	Country Club Dr						To:	Airport Rd				
Drillfield Dr - In front of Price Hall	2300	2300	G	95%	2%	2%	0%	0%	0%	C	0.114	0.921	2300	G	2017
			From:	West Campus Dr						To:	Kent St				
Drillfield Dr - In front of Williams Hall	NA	NA		Stanger St							NA				
			To:	West Campus Dr							NA				
Duckpond Dr	6600	6600	G	99%	0%	0%	1%	0%	0%	C	0.126	0.752	6600	G	2017
			From:	Southgate Dr						To:	Washington St				
Duckpond Dr	4700	4700	G	99%	0%	0%	1%	0%	0%	C	0.098	0.517	4700	G	2017
			From:	Oak Ln						To:	West Campus Dr				
E Clay St	3200	3200	G	99%	0%	0%	0%	0%	0%	F	0.084	0.589	3500	G	2017
			From:	C8US 460						To:	Dead End				
Edgewood Lane	290	290	G								0.102	0.607	290	G	2017
			From:	Preston Ave						To:	S Draper Rd				
Entrance to VT Inn & VT Visitor Ctr	1600	1600	G	97%	0%	1%	3%	0%	0%	C	0.129	0.781	1600	G	2017
			From:	Prices Fork Rd						To:	Entrance Split				

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File Name : 1-Toms Creek and Patrick Henry WED AM
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Groups Printed- Car

Start Time	Toms Creek Rd Southbound					Patrick Henry Dr Westbound					Toms Creek Rd Northbound					University City Blvd Eastbound					
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
08:00 AM	28	48	22	4	102	28	19	13	0	60	5	22	10	1	38	6	18	9	1	34	234
08:15 AM	20	58	17	3	98	26	17	11	0	54	3	19	5	0	27	7	16	9	0	32	211
08:30 AM	24	63	19	6	112	25	35	47	1	108	1	18	3	1	23	12	12	9	0	33	276
08:45 AM	21	68	30	3	122	36	28	64	1	129	11	42	14	0	67	25	19	13	1	58	376
Total	93	237	88	16	434	115	99	135	2	351	20	101	32	2	155	50	65	40	2	157	1097
09:00 AM	17	30	17	1	65	27	30	17	0	74	16	28	9	0	53	8	19	10	0	37	229
09:15 AM	13	31	16	3	63	20	19	17	0	56	8	22	4	1	35	8	27	8	0	43	197
09:30 AM	16	28	27	9	80	17	31	22	2	72	7	24	9	1	41	13	20	12	0	45	238
09:45 AM	9	36	15	7	67	19	31	44	0	94	9	26	2	1	38	10	28	7	0	45	244
Total	55	125	75	20	275	83	111	100	2	296	40	100	24	3	167	39	94	37	0	170	908
Grand Total	148	362	163	36	709	198	210	235	4	647	60	201	56	5	322	89	159	77	2	327	2005
Apprch %	20.9	51.1	23	5.1		30.6	32.5	36.3	0.6		18.6	62.4	17.4	1.6		27.2	48.6	23.5	0.6		
Total %	7.4	18.1	8.1	1.8	35.4	9.9	10.5	11.7	0.2	32.3	3	10	2.8	0.2	16.1	4.4	7.9	3.8	0.1	16.3	

Start Time	Toms Creek Rd Southbound					Patrick Henry Dr Westbound					Toms Creek Rd Northbound					University City Blvd Eastbound					
	Right	Thru	Left	App. Total		Right	Thru	Left	App. Total		Right	Thru	Left	App. Total		Right	Thru	Left	App. Total		Int. Total
Peak Hour Analysis From 08:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	28	48	22	98		28	19	13	60		5	22	10	37		6	18	9	33		228
08:15 AM	20	58	17	95		26	17	11	54		3	19	5	27		7	16	9	32		208
08:30 AM	24	63	19	106		25	35	47	107		1	18	3	22		12	12	9	33		268
08:45 AM	21	68	30	119		36	28	64	128		11	42	14	67		25	19	13	57		371
Total Volume	93	237	88	418		115	99	135	349		20	101	32	153		50	65	40	155		1075
% App. Total	22.2	56.7	21.1			33	28.4	38.7			13.1	66	20.9			32.3	41.9	25.8			
PHF	.830	.871	.733	.878		.799	.707	.527	.682		.455	.601	.571	.571		.500	.855	.769	.680		.724

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Groups Printed- Truck

Start Time	Toms Creek Rd Southbound					Patrick Henry Dr Westbound					Toms Creek Rd Northbound					University City Blvd Eastbound					
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
08:00 AM	0	0	0	0	0	0	0	2	0	2	0	0	2	0	2	0	5	0	0	5	9
08:15 AM	1	0	3	0	4	0	0	0	0	0	0	0	1	0	1	0	1	0	0	1	6
08:30 AM	0	0	1	0	1	1	0	3	0	4	0	0	2	0	2	1	2	1	0	4	11
08:45 AM	0	0	1	0	1	3	0	1	0	4	1	3	3	0	7	0	1	0	0	1	13
Total	1	0	5	0	6	4	0	6	0	10	1	3	8	0	12	1	9	1	0	11	39
09:00 AM	0	0	0	0	0	0	0	3	0	3	0	0	2	0	2	0	2	0	0	2	7
09:15 AM	0	0	0	0	0	2	0	1	0	3	0	0	1	0	1	0	3	0	0	3	7
09:30 AM	0	0	1	0	1	0	0	2	0	2	0	2	2	0	4	0	1	0	0	1	8
09:45 AM	0	1	2	0	3	0	0	1	0	1	1	0	1	0	2	0	3	0	0	3	9
Total	0	1	3	0	4	2	0	7	0	9	1	2	6	0	9	0	9	0	0	9	31
Grand Total	1	1	8	0	10	6	0	13	0	19	2	5	14	0	21	1	18	1	0	20	70
Apprch %	10	10	80	0	31.6	0	68.4	0	9.5	23.8	66.7	0	5	90	5	0	0	0	0	0	70
Total %	1.4	1.4	11.4	0	14.3	8.6	0	18.6	0	27.1	2.9	7.1	20	0	30	1.4	25.7	1.4	0	28.6	

Start Time	Toms Creek Rd Southbound					Patrick Henry Dr Westbound					Toms Creek Rd Northbound					University City Blvd Eastbound					Int. Total
	Right	Thru	Left	App. Total		Right	Thru	Left	App. Total		Right	Thru	Left	App. Total		Right	Thru	Left	App. Total		Int. Total
Peak Hour Analysis From 08:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	0	0	0	0	0	0	0	2	2	2	0	0	2	2	2	0	5	0	5	9	
08:15 AM	1	0	3	4	4	0	0	0	0	0	0	0	1	1	0	1	0	1	0	1	6
08:30 AM	0	0	1	1	1	1	0	3	4	0	0	0	2	2	1	2	1	4	11		
08:45 AM	0	0	1	1	1	3	0	1	4	1	3	3	7	0	1	0	1	0	1	13	
Total Volume	1	0	5	6	6	4	0	6	10	1	3	8	12	1	9	1	11	11	39		
% App. Total	16.7	0	83.3	40	40	0	60	8.3	25	66.7	9.1	81.8	9.1	9.1	9.1	0	0	0	0	0	
PHF	.250	.000	.417	.375	.375	.333	.000	.500	.625	.250	.250	.667	.429	.250	.450	.250	.550	.550	.750		

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Groups Printed- Combined

Start Time	Toms Creek Rd Southbound					Patrick Henry Dr Westbound					Toms Creek Rd Northbound					University City Blvd Eastbound					
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
08:00 AM	28	48	22	4	102	28	19	15	0	62	5	22	12	1	40	6	23	9	1	39	243
08:15 AM	21	58	20	3	102	26	17	11	0	54	3	19	6	0	28	7	17	9	0	33	217
08:30 AM	24	63	20	6	113	26	35	50	1	112	1	18	5	1	25	13	14	10	0	37	287
08:45 AM	21	68	31	3	123	39	28	65	1	133	12	45	17	0	74	25	20	13	1	59	389
Total	94	237	93	16	440	119	99	141	2	361	21	104	40	2	167	51	74	41	2	168	1136
09:00 AM	17	30	17	1	65	27	30	20	0	77	16	28	11	0	55	8	21	10	0	39	236
09:15 AM	13	31	16	3	63	22	19	18	0	59	8	22	5	1	36	8	30	8	0	46	204
09:30 AM	16	28	28	9	81	17	31	24	2	74	7	26	11	1	45	13	21	12	0	46	246
09:45 AM	9	37	17	7	70	19	31	45	0	95	10	26	3	1	40	10	31	7	0	48	253
Total	55	126	78	20	279	85	111	107	2	305	41	102	30	3	176	39	103	37	0	179	939
Grand Total	149	363	171	36	719	204	210	248	4	666	62	206	70	5	343	90	177	78	2	347	2075
Apprch %	20.7	50.5	23.8	5		30.6	31.5	37.2	0.6		18.1	60.1	20.4	1.5		25.9	51	22.5	0.6		
Total %	7.2	17.5	8.2	1.7		34.7	9.8	10.1	12	0.2		32.1		3		9.9	3.4	0.2		16.5	

Start Time	Toms Creek Rd Southbound					Patrick Henry Dr Westbound					Toms Creek Rd Northbound					University City Blvd Eastbound					
	Right	Thru	Left	App. Total		Right	Thru	Left	App. Total		Right	Thru	Left	App. Total		Right	Thru	Left	App. Total		Int. Total
Peak Hour Analysis From 08:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	28	48	22	98		28	19	15	62		5	22	12	39		6	23	9	38		237
08:15 AM	21	58	20	99		26	17	11	54		3	19	6	28		7	17	9	33		214
08:30 AM	24	63	20	107		26	35	50	111		1	18	5	24		13	14	10	37		279
08:45 AM	21	68	31	120		39	28	65	132		12	45	17	74		25	20	13	58		384
Total Volume	94	237	93	424		119	99	141	359		21	104	40	165		51	74	41	166		1114
% App. Total	22.2	55.9	21.9			33.1	27.6	39.3			12.7	63	24.2			30.7	44.6	24.7			
PHF	.839	.871	.750	.883		.763	.707	.542	.680		.438	.578	.588	.557		.510	.804	.788	.716		.725

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Groups Printed- Car

Start Time	Toms Creek Rd Southbound					Patrick Henry Dr Westbound					Toms Creek Rd Northbound					University City Blvd Eastbound					
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
04:30 PM	14	30	24	1	69	41	23	20	3	87	15	77	9	0	101	20	39	32	0	91	348
04:45 PM	24	46	28	1	99	40	27	30	3	100	20	69	11	1	101	12	40	22	0	74	374
Total	38	76	52	2	168	81	50	50	6	187	35	146	20	1	202	32	79	54	0	165	722
05:00 PM	17	51	26	3	97	68	36	52	6	162	14	69	16	0	99	9	38	28	0	75	433
05:15 PM	27	54	53	3	137	37	44	49	4	134	33	85	24	0	142	23	59	41	0	123	536
05:30 PM	24	35	33	2	94	56	50	35	7	148	25	75	21	0	121	18	55	29	1	103	466
05:45 PM	13	48	41	3	105	36	36	43	4	119	24	69	21	0	114	23	70	28	1	122	460
Total	81	188	153	11	433	197	166	179	21	563	96	298	82	0	476	73	222	126	2	423	1895
06:00 PM	14	33	42	1	90	41	40	32	0	113	22	46	16	0	84	15	50	29	0	94	381
06:15 PM	22	37	28	3	90	33	33	33	3	102	20	38	21	0	79	14	43	28	1	86	357
Grand Total	155	334	275	17	781	352	289	294	30	965	173	528	139	1	841	134	394	237	3	768	3355
Apprch %	19.8	42.8	35.2	2.2		36.5	29.9	30.5	3.1		20.6	62.8	16.5	0.1		17.4	51.3	30.9	0.4		
Total %	4.6	10	8.2	0.5	23.3	10.5	8.6	8.8	0.9	28.8	5.2	15.7	4.1	0	25.1	4	11.7	7.1	0.1	22.9	

Start Time	Toms Creek Rd Southbound				Patrick Henry Dr Westbound				Toms Creek Rd Northbound				University City Blvd Eastbound				
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 06:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	17	51	26	94	68	36	52	156	14	69	16	99	9	38	28	75	424
05:15 PM	27	54	53	134	37	44	49	130	33	85	24	142	23	59	41	123	529
05:30 PM	24	35	33	92	56	50	35	141	25	75	21	121	18	55	29	102	456
05:45 PM	13	48	41	102	36	36	43	115	24	69	21	114	23	70	28	121	452
Total Volume	81	188	153	422	197	166	179	542	96	298	82	476	73	222	126	421	1861
% App. Total	19.2	44.5	36.3		36.3	30.6	33		20.2	62.6	17.2		17.3	52.7	29.9		
PHF	.750	.870	.722	.787	.724	.830	.861	.869	.727	.876	.854	.838	.793	.793	.768	.856	.879

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Groups Printed- Truck

Start Time	Toms Creek Rd Southbound					Patrick Henry Dr Westbound					Toms Creek Rd Northbound					University City Blvd Eastbound					
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
04:30 PM	0	0	1	0	1	1	0	2	0	3	0	1	2	0	3	0	2	0	0	2	9
04:45 PM	0	0	0	0	0	0	0	1	0	1	0	1	1	0	2	0	2	0	0	2	5
Total	0	0	1	0	1	1	0	3	0	4	0	2	3	0	5	0	4	0	0	4	14
05:00 PM	1	1	0	0	2	0	0	2	0	2	0	1	3	0	4	0	2	0	0	2	10
05:15 PM	1	0	0	0	1	0	0	1	0	1	0	0	1	0	1	0	1	0	0	1	4
05:30 PM	0	0	0	0	0	1	0	2	0	3	0	0	2	0	2	0	1	0	0	1	6
05:45 PM	0	0	0	0	0	0	0	1	0	1	0	0	1	0	1	0	2	0	0	2	4
Total	2	1	0	0	3	1	0	6	0	7	0	1	7	0	8	0	6	0	0	6	24
06:00 PM	0	0	0	0	0	1	0	1	0	2	0	0	1	0	1	0	1	0	0	1	4
06:15 PM	0	0	0	0	0	0	0	1	0	1	0	0	1	0	1	0	1	0	0	1	3
Grand Total	2	1	1	0	4	3	0	11	0	14	0	3	12	0	15	0	12	0	0	12	45
Apprch %	50	25	25	0		21.4	0	78.6	0		0	20	80	0		0	100	0	0		
Total %	4.4	2.2	2.2	0	8.9	6.7	0	24.4	0	31.1	0	6.7	26.7	0	33.3	0	26.7	0	0	26.7	

Start Time	Toms Creek Rd Southbound				Patrick Henry Dr Westbound				Toms Creek Rd Northbound				University City Blvd Eastbound				Peak Hour Analysis From 04:30 PM to 06:15 PM - Peak 1 of 1 Peak Hour for Entire Intersection Begins at 04:30 PM
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
04:30 PM	0	0	1	1	1	0	2	3	0	1	2	3	0	2	0	2	
04:45 PM	0	0	0	0	0	0	1	1	0	1	1	2	0	2	0	2	
05:00 PM	1	1	0	2	0	0	2	2	0	1	3	4	0	2	0	2	
05:15 PM	1	0	0	1	0	0	1	1	0	0	1	1	0	1	0	1	
Total Volume	2	1	1	4	1	0	6	7	0	3	7	10	0	7	0	7	
% App. Total	50	25	25		14.3	0	85.7		0	30	70	10	0	100	0	0	
PHF	.500	.250	.250	.500	.250	.000	.750	.583	.000	.750	.583	.625	.000	.875	.000	.875	

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Start Time	Toms Creek Rd Southbound					Patrick Henry Dr Westbound					Toms Creek Rd Northbound					University City Blvd Eastbound					
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
04:30 PM	14	30	25	1	70	42	23	22	3	90	15	78	11	0	104	20	41	32	0	93	357
04:45 PM	24	46	28	1	99	40	27	31	3	101	20	70	12	1	103	12	42	22	0	76	379
Total	38	76	53	2	169	82	50	53	6	191	35	148	23	1	207	32	83	54	0	169	736
05:00 PM	18	52	26	3	99	68	36	54	6	164	14	70	19	0	103	9	40	28	0	77	443
05:15 PM	28	54	53	3	138	37	44	50	4	135	33	85	25	0	143	23	60	41	0	124	540
05:30 PM	24	35	33	2	94	57	50	37	7	151	25	75	23	0	123	18	56	29	1	104	472
05:45 PM	13	48	41	3	105	36	36	44	4	120	24	69	22	0	115	23	72	28	1	124	464
Total	83	189	153	11	436	198	166	185	21	570	96	299	89	0	484	73	228	126	2	429	1919
06:00 PM	14	33	42	1	90	42	40	33	0	115	22	46	17	0	85	15	51	29	0	95	385
06:15 PM	22	37	28	3	90	33	33	34	3	103	20	38	22	0	80	14	44	28	1	87	360
Grand Total	157	335	276	17	785	355	289	305	30	979	173	531	151	1	856	134	406	237	3	780	3400
Apprch %	20	42.7	35.2	2.2		36.3	29.5	31.2	3.1		20.2	62	17.6	0.1		17.2	52.1	30.4	0.4		
Total %	4.6	9.9	8.1	0.5	23.1	10.4	8.5	9	0.9	28.8	5.1	15.6	4.4	0	25.2	3.9	11.9	7	0.1	22.9	

Start Time	Toms Creek Rd Southbound				Patrick Henry Dr Westbound				Toms Creek Rd Northbound				University City Blvd Eastbound				
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 06:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	18	52	26	96	68	36	54	158	14	70	19	103	9	40	28	77	434
05:15 PM	28	54	53	135	37	44	50	131	33	85	25	143	23	60	41	124	533
05:30 PM	24	35	33	92	57	50	37	144	25	75	23	123	18	56	29	103	462
05:45 PM	13	48	41	102	36	36	44	116	24	69	22	115	23	72	28	123	456
Total Volume	83	189	153	425	198	166	185	549	96	299	89	484	73	228	126	427	1885
% App. Total	19.5	44.5	36		36.1	30.2	33.7		19.8	61.8	18.4		17.1	53.4	29.5		
PHF	.741	.875	.722	.787	.728	.830	.856	.869	.727	.879	.890	.846	.793	.792	.768	.861	.884

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Groups Printed- Car

Start Time	Progress St Southbound					Patrick Henry Dr Westbound					Progress St Northbound					Patrick Henry Dr Eastbound					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
08:00 AM	6	6	1	3	16	0	41	0	0	41	6	2	3	0	11	5	39	3	0	47	115
08:15 AM	7	7	3	0	17	0	49	0	0	49	1	1	2	3	7	3	33	3	0	39	112
08:30 AM	15	12	3	1	31	0	62	8	0	70	2	1	6	2	11	4	35	0	4	43	155
08:45 AM	19	11	2	0	32	0	85	5	1	91	3	3	4	2	12	3	51	1	1	56	191
Total	47	36	9	4	96	0	237	13	1	251	12	7	15	7	41	15	158	7	5	185	573
09:00 AM	9	5	2	0	16	3	51	2	0	56	2	5	6	1	14	4	46	3	0	53	139
09:15 AM	13	2	2	0	17	0	34	3	0	37	5	5	3	2	15	7	37	7	0	51	120
09:30 AM	8	0	0	0	8	1	46	4	0	51	4	0	3	2	9	4	43	3	1	51	119
09:45 AM	4	1	2	0	7	2	66	2	0	70	3	3	2	2	10	3	47	7	0	57	144
Total	34	8	6	0	48	6	197	11	0	214	14	13	14	7	48	18	173	20	1	212	522
Grand Total	81	44	15	4	144	6	434	24	1	465	26	20	29	14	89	33	331	27	6	397	1095
Apprch %	56.2	30.6	10.4	2.8		1.3	93.3	5.2	0.2		29.2	22.5	32.6	15.7		8.3	83.4	6.8	1.5		
Total %	7.4	4	1.4	0.4	13.2	0.5	39.6	2.2	0.1	42.5	2.4	1.8	2.6	1.3	8.1	3	30.2	2.5	0.5	36.3	

Start Time	Progress St Southbound				Patrick Henry Dr Westbound				Progress St Northbound				Patrick Henry Dr Eastbound				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 08:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:30 AM																	
08:30 AM	15	12	3	30	0	62	8	70	2	1	6	9	4	35	0	39	148
08:45 AM	19	11	2	32	0	85	5	90	3	3	4	10	3	51	1	55	187
09:00 AM	9	5	2	16	3	51	2	56	2	5	6	13	4	46	3	53	138
09:15 AM	13	2	2	17	0	34	3	37	5	5	3	13	7	37	7	51	118
Total Volume	56	30	9	95	3	232	18	253	12	14	19	45	18	169	11	198	591
% App. Total	58.9	31.6	9.5		1.2	91.7	7.1		26.7	31.1	42.2		9.1	85.4	5.6		
PHF	.737	.625	.750	.742	.250	.682	.563	.703	.600	.700	.792	.865	.643	.828	.393	.900	.790

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Groups Printed- Truck

Start Time	Progress St Southbound					Patrick Henry Dr Westbound					Progress St Northbound					Patrick Henry Dr Eastbound				
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total
08:00 AM	0	0	0	0	0	0	0	2	0	2	0	0	0	2	2	2	0	0	4	8
08:15 AM	0	0	0	0	0	0	0	1	0	1	0	0	1	0	1	3	1	0	5	7
08:30 AM	0	2	0	0	2	0	1	2	0	3	0	0	2	0	2	2	0	0	0	9
08:45 AM	0	0	0	0	0	0	2	2	0	4	0	0	1	0	1	1	2	0	0	3
Total	0	2	0	0	2	0	3	7	0	10	0	0	6	0	6	6	7	1	0	14
09:00 AM	0	0	0	0	0	0	2	2	0	4	0	0	2	0	2	2	0	1	0	3
09:15 AM	0	0	0	0	0	0	3	1	0	4	0	0	1	0	1	1	1	0	0	7
09:30 AM	0	0	0	0	0	0	0	2	0	2	0	0	2	0	2	2	1	0	0	7
09:45 AM	0	0	0	0	0	0	0	1	0	1	0	0	1	0	1	2	1	1	0	6
Total	0	0	0	0	0	0	5	6	0	11	0	0	6	0	6	7	3	2	0	12
Grand Total	0	2	0	0	2	0	8	13	0	21	0	0	12	0	12	13	10	3	0	26
Apprch %	0	100	0	0	0	0	38.1	61.9	0	0	0	0	100	0	0	50	38.5	11.5	0	61
Total %	0	3.3	0	0	3.3	0	13.1	21.3	0	34.4	0	0	19.7	0	0	19.7	21.3	16.4	4.9	42.6

Start Time	Progress St Southbound					Patrick Henry Dr Westbound					Progress St Northbound					Patrick Henry Dr Eastbound				
	Right	Thru	Left	App. Total		Right	Thru	Left	App. Total		Right	Thru	Left	App. Total		Right	Thru	Left	App. Total	
Peak Hour Analysis From 08:00 AM to 09:45 AM - Peak 1 of 1																				
Peak Hour for Entire Intersection Begins at 08:15 AM																				
08:15 AM	0	0	0	0	0	0	0	1	1	1	0	0	1	1	1	3	1	5	7	
08:30 AM	0	2	0	2	2	0	1	2	3	0	0	2	2	2	0	0	0	2	9	
08:45 AM	0	0	0	0	0	0	2	2	4	0	0	1	1	1	1	2	0	3	8	
09:00 AM	0	0	0	0	0	0	2	2	4	0	0	2	2	2	0	1	1	3	9	
Total Volume	0	2	0	2		0	5	7	12	0	0	6	6	6	6	5	2	13	33	
% App. Total	0	100	0	0		0	41.7	58.3		0	0	100	0	0	46.2	38.5	15.4			
PHF	.000	.250	.000	.250		.000	.625	.875	.750		.000	.000	.750	.750	.750	.417	.500	.650		.917

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Start Time	Progress St Southbound					Patrick Henry Dr Westbound					Progress St Northbound					Patrick Henry Dr Eastbound					
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
08:00 AM	6	6	1	3	16	0	41	2	0	43	6	2	5	0	13	7	41	3	0	51	123
08:15 AM	7	7	3	0	17	0	49	1	0	50	1	1	3	3	8	4	36	4	0	44	119
08:30 AM	15	14	3	1	33	0	63	10	0	73	2	1	8	2	13	6	35	0	4	45	164
08:45 AM	19	11	2	0	32	0	87	7	1	95	3	3	5	2	13	4	53	1	1	59	199
Total	47	38	9	4	98	0	240	20	1	261	12	7	21	7	47	21	165	8	5	199	605
09:00 AM	9	5	2	0	16	3	53	4	0	60	2	5	8	1	16	6	46	4	0	56	148
09:15 AM	13	2	2	0	17	0	37	4	0	41	5	5	4	2	16	8	38	7	0	53	127
09:30 AM	8	0	0	0	8	1	46	6	0	53	4	0	5	2	11	6	44	3	1	54	126
09:45 AM	4	1	2	0	7	2	66	3	0	71	3	3	3	2	11	5	48	8	0	61	150
Total	34	8	6	0	48	6	202	17	0	225	14	13	20	7	54	25	176	22	1	224	551
Grand Total	81	46	15	4	146	6	442	37	1	486	26	20	41	14	101	46	341	30	6	423	1156
Apprch %	55.5	31.5	10.3	2.7		1.2	90.9	7.6	0.2		25.7	19.8	40.6	13.9		10.9	80.6	7.1	1.4		
Total %	7	4	1.3	0.3	12.6	0.5	38.2	3.2	0.1	42	2.2	1.7	3.5	1.2	8.7	4	29.5	2.6	0.5	36.6	

Start Time	Progress St Southbound					Patrick Henry Dr Westbound					Progress St Northbound					Patrick Henry Dr Eastbound					
	Right	Thru	Left	App. Total		Right	Thru	Left	App. Total		Right	Thru	Left	App. Total		Right	Thru	Left	App. Total		
Peak Hour Analysis From 08:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:30 AM																					
08:30 AM	15	14	3	32		0	63	10	73		2	1	8	11		6	35	0	41		157
08:45 AM	19	11	2	32		0	87	7	94		3	3	5	11		4	53	1	58		195
09:00 AM	9	5	2	16		3	53	4	60		2	5	8	15		6	46	4	56		147
09:15 AM	13	2	2	17		0	37	4	41		5	5	4	14		8	38	7	53		125
Total Volume	56	32	9	97		3	240	25	268		12	14	25	51		24	172	12	208		624
% App. Total	57.7	33	9.3			1.1	89.6	9.3			23.5	27.5	49			11.5	82.7	5.8			
PHF	.737	.571	.750	.758		.250	.690	.625	.713		.600	.700	.781	.850		.750	.811	.429	.897		.800

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Start Time	Progress St Southbound					Patrick Henry Dr Westbound					Progress St Northbound					Patrick Henry Dr Eastbound					
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
04:30 PM	3	2	0	1	6	4	71	10	0	85	10	3	12	0	25	3	71	6	1	81	197
04:45 PM	3	3	1	1	8	4	80	12	1	97	9	1	9	3	22	8	63	8	1	80	207
Total	6	5	1	2	14	8	151	22	1	182	19	4	21	3	47	11	134	14	2	161	404
05:00 PM	1	3	2	0	6	1	105	16	0	122	7	7	17	2	33	8	55	6	0	69	230
05:15 PM	8	1	1	4	14	4	83	8	0	95	20	10	15	0	45	14	117	15	2	148	302
05:30 PM	8	4	0	1	13	3	108	12	1	124	19	6	16	2	43	7	92	15	0	114	294
05:45 PM	3	3	1	0	7	4	87	10	1	102	10	12	11	3	36	15	86	24	1	126	271
Total	20	11	4	5	40	12	383	46	2	443	56	35	59	7	157	44	350	60	3	457	1097
06:00 PM	5	3	3	2	13	2	72	7	0	81	9	8	11	0	28	11	98	14	1	124	246
06:15 PM	3	3	1	0	7	3	77	9	1	90	10	3	9	2	24	15	71	7	1	94	215
Grand Total	34	22	9	9	74	25	683	84	4	796	94	50	100	12	256	81	653	95	7	836	1962
Apprch %	45.9	29.7	12.2	12.2		3.1	85.8	10.6	0.5		36.7	19.5	39.1	4.7		9.7	78.1	11.4	0.8		
Total %	1.7	1.1	0.5	0.5	3.8	1.3	34.8	4.3	0.2	40.6	4.8	2.5	5.1	0.6	13	4.1	33.3	4.8	0.4	42.6	

Start Time	Progress St Southbound				Patrick Henry Dr Westbound				Progress St Northbound				Patrick Henry Dr Eastbound				
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 06:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:15 PM																	
05:15 PM	8	1	1	10	4	83	8	95	20	10	15	45	14	117	15	146	296
05:30 PM	8	4	0	12	3	108	12	123	19	6	16	41	7	92	15	114	290
05:45 PM	3	3	1	7	4	87	10	101	10	12	11	33	15	86	24	125	266
06:00 PM	5	3	3	11	2	72	7	81	9	8	11	28	11	98	14	123	243
Total Volume	24	11	5	40	13	350	37	400	58	36	53	147	47	393	68	508	1095
% App. Total	60	27.5	12.5		3.2	87.5	9.2		39.5	24.5	36.1		9.3	77.4	13.4		
PHF	.750	.688	.417	.833	.813	.810	.771	.813	.725	.750	.828	.817	.783	.840	.708	.870	.925

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File Name : 2-Progress St and Patrick Henry WED PM
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Groups Printed- Truck

Start Time	Progress St Southbound					Patrick Henry Dr Westbound					Progress St Northbound					Patrick Henry Dr Eastbound					
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
04:30 PM	1	0	0	0	1	0	1	1	0	2	0	0	2	0	2	2	1	0	0	3	8
04:45 PM	0	0	0	0	0	0	0	1	0	1	0	0	1	0	1	0	0	0	0	1	3
Total	1	0	0	0	1	0	1	2	0	3	0	0	3	0	3	1	0	0	4	11	
05:00 PM	0	0	0	0	0	0	0	1	0	1	0	0	3	0	3	2	0	0	0	2	6
05:15 PM	0	0	0	0	0	0	2	1	0	3	0	0	1	0	1	1	1	0	0	2	6
05:30 PM	0	0	0	0	0	0	1	1	0	2	0	0	2	0	2	1	0	0	0	1	5
05:45 PM	0	0	0	0	0	0	0	1	0	1	0	0	1	0	1	1	0	0	0	1	3
Total	0	0	0	0	0	0	3	4	0	7	0	0	7	0	7	5	1	0	0	6	20
06:00 PM	0	0	0	0	0	0	0	1	0	1	0	0	1	0	1	1	0	0	0	1	3
06:15 PM	0	0	0	0	0	0	0	1	0	1	0	0	1	0	1	1	0	0	0	1	3
Grand Total	1	0	0	0	1	0	4	8	0	12	0	0	12	0	12	10	2	0	0	12	37
Apprch %	100	0	0	0	1	0	33.3	66.7	0	12	0	0	100	0	12	83.3	16.7	0	0	0	12
Total %	2.7	0	0	0	2.7	0	10.8	21.6	0	32.4	0	0	32.4	0	32.4	27	5.4	0	0	32.4	

Start Time	Progress St Southbound				Patrick Henry Dr Westbound				Progress St Northbound				Patrick Henry Dr Eastbound								
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total				
Peak Hour Analysis From 04:30 PM to 06:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	1	0	0	1	0	1	1	2	0	0	2	2	2	1	0	3	8				
04:45 PM	0	0	0	0	0	0	1	1	0	0	1	1	1	0	0	1	3				
05:00 PM	0	0	0	0	0	0	1	1	0	0	3	3	2	0	0	2	6				
05:15 PM	0	0	0	0	0	2	1	3	0	0	1	1	1	0	0	2	6				
Total Volume	1	0	0	1	0	3	4	7	0	0	7	7	6	2	0	8	23				
% App. Total	100	0	0	1	0	42.9	57.1	0	0	100	0	75	25	0	0	0	23				
PHF	.250	.000	.000	.250	.000	.375	1.00	.583	.000	.000	.583	.583	.750	.500	.000	.667	.719				

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File Name : 2-Progress St and Patrick Henry WED PM
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Groups Printed- Combined

Start Time	Progress St Southbound					Patrick Henry Dr Westbound					Progress St Northbound					Patrick Henry Dr Eastbound					
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
04:30 PM	4	2	0	1	7	4	72	11	0	87	10	3	14	0	27	5	72	6	1	84	205
04:45 PM	3	3	1	1	8	4	80	13	1	98	9	1	10	3	23	9	63	8	1	81	210
Total	7	5	1	2	15	8	152	24	1	185	19	4	24	3	50	14	135	14	2	165	415
05:00 PM	1	3	2	0	6	1	105	17	0	123	7	7	20	2	36	10	55	6	0	71	236
05:15 PM	8	1	1	4	14	4	85	9	0	98	20	10	16	0	46	15	118	15	2	150	308
05:30 PM	8	4	0	1	13	3	109	13	1	126	19	6	18	2	45	8	92	15	0	115	299
05:45 PM	3	3	1	0	7	4	87	11	1	103	10	12	12	3	37	16	86	24	1	127	274
Total	20	11	4	5	40	12	386	50	2	450	56	35	66	7	164	49	351	60	3	463	1117
06:00 PM	5	3	3	2	13	2	72	8	0	82	9	8	12	0	29	12	98	14	1	125	249
06:15 PM	3	3	1	0	7	3	77	10	1	91	10	3	10	2	25	16	71	7	1	95	218
Grand Total	35	22	9	9	75	25	687	92	4	808	94	50	112	12	268	91	655	95	7	848	1999
Apprch %	46.7	29.3	12	12		3.1	85	11.4	0.5		35.1	18.7	41.8	4.5		10.7	77.2	11.2	0.8		
Total %	1.8	1.1	0.5	0.5	3.8	1.3	34.4	4.6	0.2	40.4	4.7	2.5	5.6	0.6	13.4	4.6	32.8	4.8	0.4	42.4	

	Progress St Southbound				Patrick Henry Dr Westbound				Progress St Northbound				Patrick Henry Dr Eastbound								
	Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total			
Peak Hour Analysis From 04:30 PM to 06:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:15 PM																					
05:15 PM	8	1	1	10	10	4	85	9	98	20	10	16	46	15	118	15	148	302			
05:30 PM	8	4	0	12	12	3	109	13	125	19	6	18	43	8	92	15	115	295			
05:45 PM	3	3	1	7	7	4	87	11	102	10	12	12	34	16	86	24	126	269			
06:00 PM	5	3	3	11	11	2	72	8	82	9	8	12	29	12	98	14	124	246			
Total Volume	24	11	5	40	40	13	353	41	407	58	36	58	152	51	394	68	513	1112			
% App. Total	60	27.5	12.5			3.2	86.7	10.1		38.2	23.7	38.2		9.9	76.8	13.3					
PHF	.750	.688	.417	.833		.813	.810	.788	.814	.725	.750	.806	.826	.797	.835	.708	.867	.921			

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File Name : 1-Toms Creek and Patrick Henry THU AM
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Groups Printed- Car

Start Time	Toms Creek Rd Southbound					Patrick Henry Dr Westbound					Toms Creek Rd Northbound					Patrick Henry Dr Eastbound					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:30 AM	27	71	25	7	130	26	42	42	2	112	1	29	5	1	36	8	12	7	0	27	305
07:45 AM	24	75	35	2	136	30	37	42	1	110	3	30	1	2	36	6	12	5	1	24	306
Total	51	146	60	9	266	56	79	84	3	222	4	59	6	3	72	14	24	12	1	51	611
08:00 AM	18	59	24	2	103	29	27	16	0	72	7	17	4	0	28	8	17	13	1	39	242
08:15 AM	26	55	20	0	101	27	12	16	2	57	6	13	5	0	24	9	17	7	0	33	215
08:30 AM	36	51	26	2	115	37	35	23	0	95	1	21	3	0	25	10	19	13	0	42	277
08:45 AM	25	52	30	4	111	27	36	39	0	102	10	42	5	0	57	13	27	11	0	51	321
Total	105	217	100	8	430	120	110	94	2	326	24	93	17	0	134	40	80	44	1	165	1055
09:00 AM	13	59	17	12	101	27	29	56	1	113	10	24	6	3	43	13	11	3	0	27	284
09:15 AM	14	31	21	4	70	26	34	36	0	96	14	17	5	1	37	22	20	10	0	52	255
09:30 AM	10	26	18	3	57	25	15	10	0	50	10	19	5	0	34	9	15	12	1	37	178
09:45 AM	15	23	21	1	60	20	20	15	1	56	8	18	4	0	30	10	25	14	0	49	195
Total	52	139	77	20	288	98	98	117	2	315	42	78	20	4	144	54	71	39	1	165	912
10:00 AM	15	24	13	2	54	21	27	15	0	63	5	13	10	1	29	9	24	7	0	40	186
10:15 AM	13	28	19	1	61	23	17	16	3	59	4	14	4	1	23	6	20	10	0	36	179
10:30 AM	17	27	17	3	64	22	22	29	1	74	8	16	7	2	33	10	31	12	0	53	224
10:45 AM	13	23	16	1	53	21	34	23	2	80	16	19	14	0	49	16	37	15	0	68	250
Total	58	102	65	7	232	87	100	83	6	276	33	62	35	4	134	41	112	44	0	197	839
11:00 AM	13	26	24	1	64	10	26	14	2	52	7	27	11	1	46	11	34	12	1	58	220
11:15 AM	7	26	22	2	57	18	34	10	1	63	4	18	4	1	27	11	23	8	0	42	189
Grand Total	286	656	348	47	1337	389	447	402	16	1254	114	337	93	13	557	171	344	159	4	678	3826
Apprch %	21.4	49.1	26	3.5		31	35.6	32.1	1.3		20.5	60.5	16.7	2.3		25.2	50.7	23.5	0.6		
Total %	7.5	17.1	9.1	1.2	34.9	10.2	11.7	10.5	0.4	32.8	3	8.8	2.4	0.3	14.6	4.5	9	4.2	0.1	17.7	

Start Time	Toms Creek Rd Southbound					Patrick Henry Dr Westbound					Toms Creek Rd Northbound					Patrick Henry Dr Eastbound					Int. Total
	Right	Thru	Left	App. Total		Right	Thru	Left	App. Total		Right	Thru	Left	App. Total		Right	Thru	Left	App. Total		Int. Total
Peak Hour Analysis From 07:30 AM to 11:15 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:30 AM																					
08:30 AM	36	51	26	113		37	35	23	95		1	21	3	25		10	19	13	42		275
08:45 AM	25	52	30	107		27	36	39	102		10	42	5	57		13	27	11	51		317
09:00 AM	13	59	17	89		27	29	56	112		10	24	6	40		13	11	3	27		268
09:15 AM	14	31	21	66		26	34	36	96		14	17	5	36		22	20	10	52		250
Total Volume	88	193	94	375		117	134	154	405		35	104	19	158		58	77	37	172		1110
% App. Total	23.5	51.5	25.1			28.9	33.1	38			22.2	65.8	12			33.7	44.8	21.5			
PHF	.611	.818	.783	.830		.791	.931	.688	.904		.625	.619	.792	.693		.659	.713	.712	.827		.875

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Groups Printed- Truck

Start Time	Toms Creek Rd Southbound					Patrick Henry Dr Westbound					Toms Creek Rd Northbound					Patrick Henry Dr Eastbound					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:30 AM	0	0	3	0	3	1	2	2	0	5	0	0	2	0	2	0	2	0	0	2	12
07:45 AM	0	0	1	0	1	0	0	1	0	1	0	0	1	0	1	0	1	0	0	1	4
Total	0	0	4	0	4	1	2	3	0	6	0	0	3	0	3	0	3	0	0	3	16
08:00 AM	0	0	1	0	1	0	0	2	0	2	0	0	2	0	2	0	4	0	0	4	9
08:15 AM	1	0	1	0	2	1	1	2	0	4	0	0	1	0	1	0	3	0	0	3	10
08:30 AM	0	0	2	0	2	3	0	3	0	6	0	0	3	0	3	0	2	1	0	3	14
08:45 AM	0	0	0	0	0	1	0	1	0	2	0	4	1	0	5	1	1	0	0	2	9
Total	1	0	4	0	5	5	1	8	0	14	0	4	7	0	11	1	10	1	0	12	42
09:00 AM	0	0	1	0	1	0	0	2	0	2	0	0	2	0	2	0	3	0	0	3	8
09:15 AM	0	1	2	0	3	1	0	1	0	2	0	0	1	0	1	0	3	0	0	3	9
09:30 AM	0	0	2	0	2	0	0	2	0	2	0	1	2	0	3	0	2	0	0	2	9
09:45 AM	0	1	1	0	2	1	0	1	0	2	0	1	1	0	2	0	1	0	0	1	7
Total	0	2	6	0	8	2	0	6	0	8	0	2	6	0	8	0	9	0	0	9	33
10:00 AM	1	2	2	0	5	1	0	2	0	3	0	0	2	0	2	0	2	0	0	2	12
10:15 AM	1	1	1	0	3	1	0	1	0	2	1	0	1	0	2	0	2	0	0	2	9
10:30 AM	0	0	1	0	1	1	1	2	0	4	0	0	2	0	2	0	1	0	0	1	8
10:45 AM	0	2	0	0	2	1	1	1	0	3	0	1	1	0	2	0	3	0	0	3	10
Total	2	5	4	0	11	4	2	6	0	12	1	1	6	0	8	0	8	0	0	8	39
11:00 AM	0	1	0	0	1	1	0	2	0	3	1	0	2	0	3	1	1	0	0	2	9
11:15 AM	1	0	1	0	2	2	0	1	0	3	0	2	2	0	4	0	2	0	0	2	11
Grand Total	4	8	19	0	31	15	5	26	0	46	2	9	26	0	37	2	33	1	0	36	150
Apprch %	12.9	25.8	61.3	0	32.6	10.9	56.5	0	5.4	24.3	70.3	0	5.6	91.7	2.8	0	5.6	91.7	2.8	0	5.6
Total %	2.7	5.3	12.7	0	20.7	10	3.3	17.3	0	30.7	1.3	6	17.3	0	24.7	1.3	22	0.7	0	24	24

Start Time	Toms Creek Rd Southbound				Patrick Henry Dr Westbound				Toms Creek Rd Northbound				Patrick Henry Dr Eastbound				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:30 AM to 11:15 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	0	0	1	1	0	0	2	2	0	0	0	2	2	0	4	0	4
08:15 AM	1	0	1	2	1	1	2	4	0	0	1	1	0	3	0	3	10
08:30 AM	0	0	2	2	3	0	3	6	0	0	3	3	0	2	1	3	14
08:45 AM	0	0	0	0	1	0	1	2	0	4	1	5	1	1	0	2	9
Total Volume	1	0	4	5	5	1	8	14	0	4	7	11	1	10	1	12	42
% App. Total	20	0	80	0	35.7	7.1	57.1	0	0	36.4	63.6	0	8.3	83.3	8.3	0	8.3
PHF	.250	.000	.500	.625	.417	.250	.667	.583	.000	.250	.583	.550	.250	.625	.250	.750	.750

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Groups Printed- Combined

Start Time	Toms Creek Rd Southbound					Patrick Henry Dr Westbound					Toms Creek Rd Northbound					Patrick Henry Dr Eastbound					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:30 AM	27	71	28	7	133	27	44	44	2	117	1	29	7	1	38	8	14	7	0	29	317
07:45 AM	24	75	36	2	137	30	37	43	1	111	3	30	2	2	37	6	13	5	1	25	310
Total	51	146	64	9	270	57	81	87	3	228	4	59	9	3	75	14	27	12	1	54	627
08:00 AM	18	59	25	2	104	29	27	18	0	74	7	17	6	0	30	8	21	13	1	43	251
08:15 AM	27	55	21	0	103	28	13	18	2	61	6	13	6	0	25	9	20	7	0	36	225
08:30 AM	36	51	28	2	117	40	35	26	0	101	1	21	6	0	28	10	21	14	0	45	291
08:45 AM	25	52	30	4	111	28	36	40	0	104	10	46	6	0	62	14	28	11	0	53	330
Total	106	217	104	8	435	125	111	102	2	340	24	97	24	0	145	41	90	45	1	177	1097
09:00 AM	13	59	18	12	102	27	29	58	1	115	10	24	8	3	45	13	14	3	0	30	292
09:15 AM	14	32	23	4	73	27	34	37	0	98	14	17	6	1	38	22	23	10	0	55	264
09:30 AM	10	26	20	3	59	25	15	12	0	52	10	20	7	0	37	9	17	12	1	39	187
09:45 AM	15	24	22	1	62	21	20	16	1	58	8	19	5	0	32	10	26	14	0	50	202
Total	52	141	83	20	296	100	98	123	2	323	42	80	26	4	152	54	80	39	1	174	945
10:00 AM	16	26	15	2	59	22	27	17	0	66	5	13	12	1	31	9	26	7	0	42	198
10:15 AM	14	29	20	1	64	24	17	17	3	61	5	14	5	1	25	6	22	10	0	38	188
10:30 AM	17	27	18	3	65	23	23	31	1	78	8	16	9	2	35	10	32	12	0	54	232
10:45 AM	13	25	16	1	55	22	35	24	2	83	16	20	15	0	51	16	40	15	0	71	260
Total	60	107	69	7	243	91	102	89	6	288	34	63	41	4	142	41	120	44	0	205	878
11:00 AM	13	27	24	1	65	11	26	16	2	55	8	27	13	1	49	12	35	12	1	60	229
11:15 AM	8	26	23	2	59	20	34	11	1	66	4	20	6	1	31	11	25	8	0	44	200
Grand Total	290	664	367	47	1368	404	452	428	16	1300	116	346	119	13	594	173	377	160	4	714	3976
Apprch %	21.2	48.5	26.8	3.4		31.1	34.8	32.9	1.2		19.5	58.2	20	2.2		24.2	52.8	22.4	0.6		
Total %	7.3	16.7	9.2	1.2	34.4	10.2	11.4	10.8	0.4	32.7	2.9	8.7	3	0.3	14.9	4.4	9.5	4	0.1	18	

Start Time	Toms Creek Rd Southbound					Patrick Henry Dr Westbound					Toms Creek Rd Northbound					Patrick Henry Dr Eastbound					Int. Total
	Right	Thru	Left	App. Total		Right	Thru	Left	App. Total		Right	Thru	Left	App. Total		Right	Thru	Left	App. Total		Int. Total
Peak Hour Analysis From 07:30 AM to 11:15 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:30 AM																					
08:30 AM	36	51	28	115		40	35	26	101		1	21	6	28		10	21	14	45		289
08:45 AM	25	52	30	107		28	36	40	104		10	46	6	62		14	28	11	53		326
09:00 AM	13	59	18	90		27	29	58	114		10	24	8	42		13	14	3	30		276
09:15 AM	14	32	23	69		27	34	37	98		14	17	6	37		22	23	10	55		259
Total Volume	88	194	99	381		122	134	161	417		35	108	26	169		59	86	38	183		1150
% App. Total	23.1	50.9	26			29.3	32.1	38.6			20.7	63.9	15.4			32.2	47	20.8			
PHF	.611	.822	.825	.828		.763	.931	.694	.914		.625	.587	.813	.681		.670	.768	.679	.832		.882

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Groups Printed- Car

Start Time	Toms Creek Rd Southbound					Patrick Henry Dr Westbound					Toms Creek Rd Northbound					Patrick Henry Dr Eastbound					Int. Total	
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total	
03:00 PM	14	32	28	2	76	21	25	26	2	74	21	45	15	1	82	14	39	17	0	70	302	
03:15 PM	15	28	24	1	68	41	26	37	3	107	16	37	16	1	70	16	33	23	1	73	318	
03:30 PM	21	37	23	1	82	48	39	12	3	102	24	70	10	1	105	11	48	17	0	76	365	
03:45 PM	18	25	36	1	80	49	37	29	2	117	14	77	15	0	106	14	42	26	0	82	385	
Total	68	122	111	5	306	159	127	104	10	400	75	229	56	3	363	55	162	83	1	301	1370	
04:00 PM	18	36	27	1	82	45	31	16	0	92	18	64	12	0	94	12	35	26	0	73	341	
04:15 PM	25	29	32	1	87	49	40	19	3	111	21	45	13	0	79	9	51	35	0	95	372	
04:30 PM	17	35	23	5	80	50	42	33	1	126	19	69	14	0	102	20	57	20	1	98	406	
04:45 PM	27	55	30	1	113	42	37	47	1	127	24	75	22	1	122	20	59	27	1	107	469	
Total	87	155	112	8	362	186	150	115	5	456	82	253	61	1	397	61	202	108	2	373	1588	
05:00 PM	23	35	31	0	89	62	33	34	5	134	29	90	22	4	145	29	60	39	0	128	496	
05:15 PM	21	39	40	1	101	58	42	52	4	156	30	84	22	3	139	15	45	35	0	95	491	
05:30 PM	25	45	46	2	118	56	38	32	4	130	28	43	16	1	88	7	51	33	0	91	427	
05:45 PM	22	38	43	3	106	48	52	40	2	142	19	59	22	1	101	10	66	28	0	104	453	
Total	91	157	160	6	414	224	165	158	15	562	106	276	82	9	473	61	222	135	0	418	1867	
06:00 PM	15	43	41	0	99	37	31	33	2	103	30	56	13	3	102	16	48	26	0	90	394	
06:15 PM	23	49	30	1	103	32	37	42	0	111	34	58	13	0	105	18	37	23	1	79	398	
06:30 PM	19	47	41	0	107	30	30	37	0	97	27	57	16	1	101	18	42	24	1	85	390	
06:45 PM	17	39	18	2	76	28	36	34	2	100	27	46	11	1	85	26	64	29	0	119	380	
Total	74	178	130	3	385	127	134	146	4	411	118	217	53	5	393	78	191	102	2	373	1562	
Grand Total	320	612	513	22	1467	696	576	523	34	1829	381	975	252	18	1626	255	777	428	5	1465	6387	
Apprch %	21.8	41.7	35	1.5		38.1	31.5	28.6	1.9		23.4	60	15.5	1.1		17.4	53	29.2	0.3			
Total %	5	9.6	8	0.3		23	10.9	9	8.2	0.5		28.6	6	15.3	3.9	0.3	25.5	4	12.2	6.7	0.1	22.9

Start Time	Toms Creek Rd Southbound					Patrick Henry Dr Westbound					Toms Creek Rd Northbound					Patrick Henry Dr Eastbound					Int. Total
	Right	Thru	Left	App. Total		Right	Thru	Left	App. Total		Right	Thru	Left	App. Total		Right	Thru	Left	App. Total		Int. Total
Peak Hour Analysis From 03:00 PM to 06:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	27	55	30	112		42	37	47	126		24	75	22	121		20	59	27	106		465
05:00 PM	23	35	31	89		62	33	34	129		29	90	22	141		29	60	39	128		487
05:15 PM	21	39	40	100		58	42	52	152		30	84	22	136		15	45	35	95		483
05:30 PM	25	45	46	116		56	38	32	126		28	43	16	87		7	51	33	91		420
Total Volume	96	174	147	417		218	150	165	533		111	292	82	485		71	215	134	420		1855
% App. Total	23	41.7	35.3			40.9	28.1	31			22.9	60.2	16.9			16.9	51.2	31.9			
PHF	.889	.791	.799	.899		.879	.893	.793	.877		.925	.811	.932	.860		.612	.896	.859	.820		.952

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File Name : 1-Toms Creek and Patrick Henry THU PM
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Groups Printed- Truck

Start Time	Toms Creek Rd Southbound					Patrick Henry Dr Westbound					Toms Creek Rd Northbound					Patrick Henry Dr Eastbound					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
03:00 PM	0	2	2	0	4	0	1	2	0	3	0	1	3	0	4	0	2	0	0	2	13
03:15 PM	0	2	0	0	2	3	0	1	0	4	0	0	1	0	1	0	2	0	0	2	9
03:30 PM	1	2	1	0	4	0	0	2	0	2	0	0	2	0	2	0	1	0	0	1	9
03:45 PM	0	1	1	0	2	0	1	1	0	2	1	1	1	0	3	0	2	0	0	2	9
Total	1	7	4	0	12	3	2	6	0	11	1	2	7	0	10	0	7	0	0	7	40
04:00 PM	0	0	1	0	1	0	0	3	0	3	1	0	2	0	3	0	2	1	0	3	10
04:15 PM	0	0	3	0	3	0	0	1	0	1	0	0	1	0	1	0	1	0	0	1	6
04:30 PM	0	1	2	0	3	2	0	3	0	5	0	0	2	0	2	0	1	0	0	1	11
04:45 PM	0	1	1	0	2	2	0	1	0	3	0	2	1	0	3	1	1	0	0	2	10
Total	0	2	7	0	9	4	0	8	0	12	1	2	6	0	9	1	5	1	0	7	37
05:00 PM	0	0	0	0	0	2	0	2	0	4	0	0	3	0	3	0	2	0	0	2	9
05:15 PM	0	0	1	0	1	3	0	1	0	4	0	0	1	0	1	0	1	0	0	1	7
05:30 PM	0	0	0	0	0	4	2	2	0	8	0	0	2	0	2	0	2	0	0	2	12
05:45 PM	0	0	0	0	0	3	0	1	0	4	0	0	1	0	1	0	2	1	0	3	8
Total	0	0	1	0	1	12	2	6	0	20	0	0	7	0	7	0	7	1	0	8	36
06:00 PM	0	0	0	0	0	1	0	1	0	2	0	0	1	0	1	0	1	0	0	1	4
06:15 PM	0	0	0	0	0	1	0	2	0	3	0	0	1	0	1	0	1	0	0	1	5
06:30 PM	0	0	1	0	1	0	0	1	0	1	0	0	1	0	1	0	0	0	0	0	3
06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	1	0	2	3
Total	0	0	1	0	1	2	0	4	0	6	0	0	4	0	4	0	3	1	0	4	15
Grand Total	1	9	13	0	23	21	4	24	0	49	2	4	24	0	30	1	22	3	0	26	128
Apprch %	4.3	39.1	56.5	0	42.9	8.2	49	0	6.7	13.3	80	0	3.8	84.6	11.5	0	0	0	0	0	0
Total %	0.8	7	10.2	0	18	16.4	3.1	18.8	0	38.3	1.6	3.1	18.8	0	23.4	0.8	17.2	2.3	0	20.3	0

Start Time	Toms Creek Rd Southbound					Patrick Henry Dr Westbound					Toms Creek Rd Northbound					Patrick Henry Dr Eastbound					Int. Total
	Right	Thru	Left	App. Total		Right	Thru	Left	App. Total		Right	Thru	Left	App. Total		Right	Thru	Left	App. Total		Int. Total
Peak Hour Analysis From 03:00 PM to 06:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 03:00 PM																					
03:00 PM	0	2	2	4		0	1	2	3		0	1	3	4		0	2	0	2		13
03:15 PM	0	2	0	2		3	0	1	4		0	0	1	1		0	2	0	2		9
03:30 PM	1	2	1	4		0	0	2	2		0	0	2	2		0	1	0	1		9
03:45 PM	0	1	1	2		0	1	1	2		1	1	1	3		0	2	0	2		9
Total Volume	1	7	4	12		3	2	6	11		1	2	7	10		0	7	0	7		40
% App. Total	8.3	58.3	33.3			27.3	18.2	54.5			10	20	70			0	100	0	0		
PHF	.250	.875	.500	.750		.250	.500	.750	.688		.250	.500	.583	.625		.000	.875	.000	.875		.769

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File Name : 2-Progress St and PPatrick Henry THU AM
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Groups Printed- Car

Start Time	Progress St Southbound					Patrick Henry Dr Westbound					Progress St Northbound					Patrick Henry Dr Eastbound					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:30 AM	24	4	0	7	35	0	75	3	0	78	1	1	12	1	15	3	36	1	0	40	168
07:45 AM	24	1	0	1	26	1	54	5	1	61	7	0	2	1	10	5	46	5	0	56	153
Total	48	5	0	8	61	1	129	8	1	139	8	1	14	2	25	8	82	6	0	96	321
08:00 AM	8	6	3	1	18	0	53	3	0	56	5	3	5	0	13	7	40	5	0	52	139
08:15 AM	6	9	0	0	15	2	44	4	0	50	3	1	3	2	9	2	38	2	1	43	117
08:30 AM	15	8	1	0	24	1	67	2	0	70	2	1	6	1	10	6	44	3	0	53	157
08:45 AM	13	12	0	0	25	1	70	7	0	78	1	5	4	5	15	5	52	6	0	63	181
Total	42	35	4	1	82	4	234	16	0	254	11	10	18	8	47	20	174	16	1	211	594
09:00 AM	11	14	1	0	26	2	74	6	0	82	5	3	5	3	16	3	37	4	0	44	168
09:15 AM	5	3	0	0	8	0	59	5	1	65	2	2	7	0	11	3	39	5	2	49	133
09:30 AM	8	4	0	0	12	0	34	5	0	39	8	2	5	0	15	3	33	1	1	38	104
09:45 AM	11	3	2	1	17	2	34	6	1	43	4	1	4	0	9	3	41	5	0	49	118
Total	35	24	3	1	63	4	201	22	2	229	19	8	21	3	51	12	150	15	3	180	523
10:00 AM	10	5	2	2	19	2	43	6	0	51	6	4	4	0	14	4	31	6	2	43	127
10:15 AM	6	1	2	0	9	3	41	0	0	44	5	2	7	4	18	2	38	4	0	44	115
10:30 AM	3	0	1	0	4	1	54	7	0	62	7	0	7	2	16	8	41	9	2	60	142
10:45 AM	8	13	0	0	21	4	58	5	0	67	13	1	7	0	21	9	52	8	0	69	178
Total	27	19	5	2	53	10	196	18	0	224	31	7	25	6	69	23	162	27	4	216	562
11:00 AM	3	4	1	0	8	1	41	5	0	47	7	3	2	3	15	9	50	6	2	67	137
11:15 AM	7	1	0	0	8	1	45	5	0	51	6	3	3	1	13	4	45	5	0	54	126
Grand Total	162	88	13	12	275	21	846	74	3	944	82	32	83	23	220	76	663	75	10	824	2263
Apprch %	58.9	32	4.7	4.4		2.2	89.6	7.8	0.3		37.3	14.5	37.7	10.5		9.2	80.5	9.1	1.2		
Total %	7.2	3.9	0.6	0.5	12.2	0.9	37.4	3.3	0.1	41.7	3.6	1.4	3.7	1	9.7	3.4	29.3	3.3	0.4	36.4	

Start Time	Progress St Southbound					Patrick Henry Dr Westbound					Progress St Northbound					Patrick Henry Dr Eastbound					Int. Total
	Right	Thru	Left	App. Total		Right	Thru	Left	App. Total		Right	Thru	Left	App. Total		Right	Thru	Left	App. Total		Int. Total
Peak Hour Analysis From 07:30 AM to 11:15 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:30 AM																					
08:30 AM	15	8	1	24		1	67	2	70		2	1	6	9		6	44	3	53		156
08:45 AM	13	12	0	25		1	70	7	78		1	5	4	10		5	52	6	63		176
09:00 AM	11	14	1	26		2	74	6	82		5	3	5	13		3	37	4	44		165
09:15 AM	5	3	0	8		0	59	5	64		2	2	7	11		3	39	5	47		130
Total Volume	44	37	2	83		4	270	20	294		10	11	22	43		17	172	18	207		627
% App. Total	53	44.6	2.4			1.4	91.8	6.8			23.3	25.6	51.2			8.2	83.1	8.7			
PHF	.733	.661	.500	.798		.500	.912	.714	.896		.500	.550	.786	.827		.708	.827	.750	.821		.891

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File Name : 2-Progress St and PPatrick Henry THU AM
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Groups Printed- Truck

Start Time	Progress St Southbound					Patrick Henry Dr Westbound					Progress St Northbound					Patrick Henry Dr Eastbound					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:30 AM	1	0	0	0	1	0	0	3	0	3	0	0	2	0	2	2	2	0	0	4	10
07:45 AM	0	0	0	0	0	0	0	1	0	1	0	0	1	0	1	1	3	0	0	4	6
Total	1	0	0	0	1	0	0	4	0	4	0	0	3	0	3	3	5	0	0	8	16
08:00 AM	1	0	0	0	1	1	1	2	0	4	0	0	2	0	2	2	3	0	0	5	12
08:15 AM	0	0	0	0	0	0	1	1	0	2	0	0	2	0	2	2	1	1	0	4	8
08:30 AM	0	1	0	0	1	0	2	2	0	4	0	0	3	0	3	3	1	0	0	4	12
08:45 AM	0	0	0	0	0	0	0	2	0	2	0	0	1	0	1	1	1	0	0	2	5
Total	1	1	0	0	2	1	4	7	0	12	0	0	8	0	8	8	6	1	0	15	37
09:00 AM	0	0	0	0	0	0	0	2	0	2	0	0	2	0	2	2	2	0	0	4	8
09:15 AM	0	0	0	0	0	0	0	1	0	1	0	0	2	0	2	2	3	1	0	6	9
09:30 AM	0	0	0	0	0	0	1	2	0	3	0	0	2	0	2	2	1	1	0	4	9
09:45 AM	0	0	1	0	1	0	1	2	0	3	0	0	2	0	2	1	2	0	0	3	9
Total	0	0	1	0	1	0	2	7	0	9	0	0	8	0	8	7	8	2	0	17	35
10:00 AM	1	0	0	0	1	0	0	2	0	2	0	0	2	0	2	2	2	0	0	4	9
10:15 AM	0	0	0	0	0	0	2	1	0	3	1	0	1	0	2	1	2	1	0	4	9
10:30 AM	0	0	0	0	0	0	0	2	0	2	1	0	2	0	3	2	0	0	0	2	7
10:45 AM	0	0	0	0	0	0	1	1	0	2	0	0	1	0	1	1	1	1	0	3	6
Total	1	0	0	0	1	0	3	6	0	9	2	0	6	0	8	6	5	2	0	13	31
11:00 AM	1	0	0	0	1	0	0	2	0	2	0	0	2	0	2	2	0	0	0	2	7
11:15 AM	0	0	0	0	0	0	1	1	0	2	0	0	1	0	1	1	1	0	0	2	5
Grand Total	4	1	1	0	6	1	10	27	0	38	2	0	28	0	27	25	5	0	57	131	
Apprch %	66.7	16.7	16.7	0		2.6	26.3	71.1	0		6.7	0	93.3	0		47.4	43.9	8.8	0		
Total %	3.1	0.8	0.8	0	4.6	0.8	7.6	20.6	0	29	1.5	0	21.4	0	22.9	20.6	19.1	3.8	0	43.5	

Start Time	Progress St Southbound				Patrick Henry Dr Westbound				Progress St Northbound				Patrick Henry Dr Eastbound				Int. Total	
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total	
Peak Hour Analysis From 07:30 AM to 11:15 AM - Peak 1 of 1																		
Peak Hour for Entire Intersection Begins at 07:45 AM																		
07:45 AM	0	0	0	0	0	0	1	1	1	0	0	1	1	1	3	0	4	6
08:00 AM	1	0	0	1	1	1	2	4	0	0	2	2	2	3	0	5	12	
08:15 AM	0	0	0	0	0	0	1	1	0	2	0	0	2	2	1	4	8	
08:30 AM	0	1	0	1	0	2	2	4	0	0	3	3	3	1	0	4	12	
Total Volume	1	1	0	2	1	4	6	11	0	0	8	8	8	8	1	17	38	
% App. Total	50	50	0		9.1	36.4	54.5		0	0	100	47.1	47.1	5.9				
PHF	.250	.250	.000	.500	.250	.500	.750	.688	.000	.000	.667	.667	.667	.250	.850		.792	

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Groups Printed- Combined

Start Time	Progress St Southbound					Patrick Henry Dr Westbound					Progress St Northbound					Patrick Henry Dr Eastbound					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:30 AM	25	4	0	7	36	0	75	6	0	81	1	1	14	1	17	5	38	1	0	44	178
07:45 AM	24	1	0	1	26	1	54	6	1	62	7	0	3	1	11	6	49	5	0	60	159
Total	49	5	0	8	62	1	129	12	1	143	8	1	17	2	28	11	87	6	0	104	337
08:00 AM	9	6	3	1	19	1	54	5	0	60	5	3	7	0	15	9	43	5	0	57	151
08:15 AM	6	9	0	0	15	2	45	5	0	52	3	1	5	2	11	4	39	3	1	47	125
08:30 AM	15	9	1	0	25	1	69	4	0	74	2	1	9	1	13	9	45	3	0	57	169
08:45 AM	13	12	0	0	25	1	70	9	0	80	1	5	5	5	16	6	53	6	0	65	186
Total	43	36	4	1	84	5	238	23	0	266	11	10	26	8	55	28	180	17	1	226	631
09:00 AM	11	14	1	0	26	2	74	8	0	84	5	3	7	3	18	5	39	4	0	48	176
09:15 AM	5	3	0	0	8	0	59	6	1	66	2	2	9	0	13	5	42	6	2	55	142
09:30 AM	8	4	0	0	12	0	35	7	0	42	8	2	7	0	17	5	34	2	1	42	113
09:45 AM	11	3	3	1	18	2	35	8	1	46	4	1	6	0	11	4	43	5	0	52	127
Total	35	24	4	1	64	4	203	29	2	238	19	8	29	3	59	19	158	17	3	197	558
10:00 AM	11	5	2	2	20	2	43	8	0	53	6	4	6	0	16	6	33	6	2	47	136
10:15 AM	6	1	2	0	9	3	43	1	0	47	6	2	8	4	20	3	40	5	0	48	124
10:30 AM	3	0	1	0	4	1	54	9	0	64	8	0	9	2	19	10	41	9	2	62	149
10:45 AM	8	13	0	0	21	4	59	6	0	69	13	1	8	0	22	10	53	9	0	72	184
Total	28	19	5	2	54	10	199	24	0	233	33	7	31	6	77	29	167	29	4	229	593
11:00 AM	4	4	1	0	9	1	41	7	0	49	7	3	4	3	17	11	50	6	2	69	144
11:15 AM	7	1	0	0	8	1	46	6	0	53	6	3	4	1	14	5	46	5	0	56	131
Grand Total	166	89	14	12	281	22	856	101	3	982	84	32	111	23	250	103	688	80	10	881	2394
Apprch %	59.1	31.7	5	4.3		2.2	87.2	10.3	0.3		33.6	12.8	44.4	9.2		11.7	78.1	9.1	1.1		
Total %	6.9	3.7	0.6	0.5	11.7	0.9	35.8	4.2	0.1	41	3.5	1.3	4.6	1	10.4	4.3	28.7	3.3	0.4	36.8	

Start Time	Progress St Southbound					Patrick Henry Dr Westbound					Progress St Northbound					Patrick Henry Dr Eastbound					Int. Total
	Right	Thru	Left	App. Total		Right	Thru	Left	App. Total		Right	Thru	Left	App. Total		Right	Thru	Left	App. Total		Int. Total
Peak Hour Analysis From 07:30 AM to 11:15 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:30 AM																					
08:30 AM	15	9	1	25		1	69	4	74		2	1	9	12		9	45	3	57		168
08:45 AM	13	12	0	25		1	70	9	80		1	5	5	11		6	53	6	65		181
09:00 AM	11	14	1	26		2	74	8	84		5	3	7	15		5	39	4	48		173
09:15 AM	5	3	0	8		0	59	6	65		2	2	9	13		5	42	6	53		139
Total Volume	44	38	2	84		4	272	27	303		10	11	30	51		25	179	19	223		661
% App. Total	52.4	45.2	2.4			1.3	89.8	8.9			19.6	21.6	58.8			11.2	80.3	8.5			
PHF	.733	.679	.500	.808		.500	.919	.750	.902		.500	.550	.833	.850		.694	.844	.792	.858		.913

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Groups Printed- Car

Start Time	Progress St Southbound					Patrick Henry Dr Westbound					Progress St Northbound					Patrick Henry Dr Eastbound					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
03:00 PM	5	6	2	0	13	2	49	14	0	65	5	3	5	5	18	13	64	6	1	84	180
03:15 PM	8	4	2	0	14	0	71	11	0	82	10	5	8	3	26	9	56	8	1	74	196
03:30 PM	5	3	2	0	10	2	87	12	1	102	7	3	7	1	18	7	74	7	2	90	220
03:45 PM	3	2	2	2	9	6	94	3	0	103	9	9	14	5	37	9	74	7	0	90	239
Total	21	15	8	2	46	10	301	40	1	352	31	20	34	14	99	38	268	28	4	338	835
04:00 PM	3	4	4	0	11	2	86	7	0	95	12	1	10	0	23	11	56	10	1	78	207
04:15 PM	5	4	2	1	12	5	81	5	2	93	8	4	10	0	22	9	77	8	1	95	222
04:30 PM	10	5	1	1	17	4	94	9	0	107	10	4	12	2	28	14	71	4	0	89	241
04:45 PM	7	10	1	3	21	1	98	17	1	117	10	10	7	4	31	7	80	7	0	94	263
Total	25	23	8	5	61	12	359	38	3	412	40	19	39	6	104	41	284	29	2	356	933
05:00 PM	5	3	0	0	8	5	110	11	0	126	21	6	15	7	49	18	94	8	0	120	303
05:15 PM	7	4	1	3	15	3	106	11	0	120	15	4	18	5	42	8	78	15	0	101	278
05:30 PM	6	4	4	1	15	4	97	10	1	112	16	9	16	2	43	12	98	15	1	126	296
05:45 PM	10	5	2	3	20	0	84	10	0	94	19	6	15	1	41	14	105	14	2	135	290
Total	28	16	7	7	58	12	397	42	1	452	71	25	64	15	175	52	375	52	3	482	1167
06:00 PM	3	3	2	3	11	3	80	11	0	94	13	7	14	3	37	11	83	12	0	106	248
06:15 PM	10	4	0	0	14	5	74	13	0	92	16	9	11	0	36	10	63	11	0	84	226
06:30 PM	5	4	3	1	13	5	65	17	1	88	21	7	13	3	44	20	79	8	1	108	253
06:45 PM	7	3	3	1	14	2	62	10	0	74	9	7	12	1	29	9	85	13	2	109	226
Total	25	14	8	5	52	15	281	51	1	348	59	30	50	7	146	50	310	44	3	407	953
Grand Total	99	68	31	19	217	49	1338	171	6	1564	201	94	187	42	524	181	1237	153	12	1583	3888
Apprch %	45.6	31.3	14.3	8.8		3.1	85.5	10.9	0.4		38.4	17.9	35.7	8		11.4	78.1	9.7	0.8		
Total %	2.5	1.7	0.8	0.5	5.6	1.3	34.4	4.4	0.2	40.2	5.2	2.4	4.8	1.1	13.5	4.7	31.8	3.9	0.3	40.7	

Start Time	Progress St Southbound					Patrick Henry Dr Westbound					Progress St Northbound					Patrick Henry Dr Eastbound					Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 06:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	5	3	0	8	5	110	11	126	21	6	15	42	18	94	8	120	296				
05:15 PM	7	4	1	12	3	106	11	120	15	4	18	37	8	78	15	101	270				
05:30 PM	6	4	4	14	4	97	10	111	16	9	16	41	12	98	15	125	291				
05:45 PM	10	5	2	17	0	84	10	94	19	6	15	40	14	105	14	133	284				
Total Volume	28	16	7	51	12	397	42	451	71	25	64	160	52	375	52	479	1141				
% App. Total	54.9	31.4	13.7		2.7	88	9.3		44.4	15.6	40		10.9	78.3	10.9						
PHF	.700	.800	.438	.750	.600	.902	.955	.895	.845	.694	.889	.952	.722	.893	.867	.900	.964				

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Groups Printed- Truck

Start Time	Progress St Southbound					Patrick Henry Dr Westbound					Progress St Northbound					Patrick Henry Dr Eastbound					
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
03:00 PM	0	0	0	0	0	0	1	1	0	2	0	0	2	0	2	2	1	0	0	3	7
03:15 PM	1	1	0	0	2	0	2	2	0	4	0	0	1	0	1	1	1	1	0	3	10
03:30 PM	0	1	0	0	1	0	0	1	0	1	0	0	2	0	2	1	0	0	0	1	5
03:45 PM	0	0	0	0	0	0	1	1	0	2	1	1	1	0	3	3	0	0	0	3	8
Total	1	2	0	0	3	0	4	5	0	9	1	1	6	0	8	7	2	1	0	10	30
04:00 PM	0	0	0	0	0	0	1	1	0	2	1	1	2	0	4	2	1	0	0	3	9
04:15 PM	0	0	0	0	0	0	0	1	0	1	0	0	1	0	1	2	2	0	0	4	6
04:30 PM	0	0	0	0	0	1	0	1	0	2	1	0	3	0	4	3	1	0	0	4	10
04:45 PM	0	1	0	0	1	0	2	1	0	3	0	0	2	0	2	1	3	0	0	4	10
Total	0	1	0	0	1	1	3	4	0	8	2	1	8	0	11	8	7	0	0	15	35
05:00 PM	0	0	0	0	0	0	2	1	0	3	1	0	1	0	2	2	0	0	0	2	7
05:15 PM	0	0	0	0	0	0	2	1	0	3	0	0	3	0	3	2	0	0	0	2	8
05:30 PM	0	0	0	0	0	0	5	1	0	6	0	0	2	0	2	2	0	0	0	2	10
05:45 PM	0	0	0	0	0	0	2	1	0	3	0	0	2	0	2	1	0	0	0	1	6
Total	0	0	0	0	0	0	11	4	0	15	1	0	8	0	9	7	0	0	0	7	31
06:00 PM	0	0	0	0	0	0	0	1	0	1	0	0	2	0	2	1	0	0	0	1	4
06:15 PM	0	0	0	0	0	0	1	1	0	2	0	0	1	0	1	1	0	0	0	1	4
06:30 PM	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	1	1	0	0	2	3
06:45 PM	0	1	0	0	1	0	1	0	0	1	0	0	1	0	1	0	2	0	0	2	5
Total	0	1	0	0	1	0	2	3	0	5	0	0	4	0	4	3	3	0	0	6	16
Grand Total	1	4	0	0	5	1	20	16	0	37	4	2	26	0	32	25	12	1	0	38	112
Apprch %	20	80	0	0	2.7	54.1	43.2	0	12.5	6.2	81.2	0	65.8	31.6	2.6	0	0	0	0	0	
Total %	0.9	3.6	0	0	4.5	0.9	17.9	14.3	0	33	3.6	1.8	23.2	0	28.6	22.3	10.7	0.9	0	33.9	

Start Time	Progress St Southbound					Patrick Henry Dr Westbound					Progress St Northbound					Patrick Henry Dr Eastbound					
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 06:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:00 PM																					
04:00 PM	0	0	0	0	0	0	1	1	2	1	1	2	4	2	1	0	3	9			
04:15 PM	0	0	0	0	0	0	0	1	1	0	0	1	1	2	2	0	4	6			
04:30 PM	0	0	0	0	0	1	0	1	2	1	0	3	4	3	1	0	4	10			
04:45 PM	0	1	0	1	1	0	2	1	3	0	0	2	2	1	3	0	4	10			
Total Volume	0	1	0	1	1	1	3	4	8	2	1	8	11	8	7	0	15	35			
% App. Total	0	100	0	0	12.5	37.5	50	18.2	9.1	72.7	53.3	46.7	0	53.3	46.7	0	0	0	0	0	
PHF	.000	.250	.000	.250	.250	.375	1.00	.667	.500	.250	.667	.688	.667	.583	.000	.938	.875				

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Groups Printed- Combined

Start Time	Progress St Southbound					Patrick Henry Dr Westbound					Progress St Northbound					Patrick Henry Dr Eastbound					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
03:00 PM	5	6	2	0	13	2	50	15	0	67	5	3	7	5	20	15	65	6	1	87	187
03:15 PM	9	5	2	0	16	0	73	13	0	86	10	5	9	3	27	10	57	9	1	77	206
03:30 PM	5	4	2	0	11	2	87	13	1	103	7	3	9	1	20	8	74	7	2	91	225
03:45 PM	3	2	2	2	9	6	95	4	0	105	10	10	15	5	40	12	74	7	0	93	247
Total	22	17	8	2	49	10	305	45	1	361	32	21	40	14	107	45	270	29	4	348	865
04:00 PM	3	4	4	0	11	2	87	8	0	97	13	2	12	0	27	13	57	10	1	81	216
04:15 PM	5	4	2	1	12	5	81	6	2	94	8	4	11	0	23	11	79	8	1	99	228
04:30 PM	10	5	1	1	17	5	94	10	0	109	11	4	15	2	32	17	72	4	0	93	251
04:45 PM	7	11	1	3	22	1	100	18	1	120	10	10	9	4	33	8	83	7	0	98	273
Total	25	24	8	5	62	13	362	42	3	420	42	20	47	6	115	49	291	29	2	371	968
05:00 PM	5	3	0	0	8	5	112	12	0	129	22	6	16	7	51	20	94	8	0	122	310
05:15 PM	7	4	1	3	15	3	108	12	0	123	15	4	21	5	45	10	78	15	0	103	286
05:30 PM	6	4	4	1	15	4	102	11	1	118	16	9	18	2	45	14	98	15	1	128	306
05:45 PM	10	5	2	3	20	0	86	11	0	97	19	6	17	1	43	15	105	14	2	136	296
Total	28	16	7	7	58	12	408	46	1	467	72	25	72	15	184	59	375	52	3	489	1198
06:00 PM	3	3	2	3	11	3	80	12	0	95	13	7	16	3	39	12	83	12	0	107	252
06:15 PM	10	4	0	0	14	5	75	14	0	94	16	9	12	0	37	11	63	11	0	85	230
06:30 PM	5	4	3	1	13	5	65	18	1	89	21	7	13	3	44	21	80	8	1	110	256
06:45 PM	7	4	3	1	15	2	63	10	0	75	9	7	13	1	30	9	87	13	2	111	231
Total	25	15	8	5	53	15	283	54	1	353	59	30	54	7	150	53	313	44	3	413	969
Grand Total	100	72	31	19	222	50	1358	187	6	1601	205	96	213	42	556	206	1249	154	12	1621	4000
Apprch %	45	32.4	14	8.6		3.1	84.8	11.7	0.4		36.9	17.3	38.3	7.6		12.7	77.1	9.5	0.7		
Total %	2.5	1.8	0.8	0.5	5.6	1.2	34	4.7	0.2	40	5.1	2.4	5.3	1	13.9	5.2	31.2	3.8	0.3	40.5	

Start Time	Progress St Southbound					Patrick Henry Dr Westbound					Progress St Northbound					Patrick Henry Dr Eastbound					Int. Total
	Right	Thru	Left	App. Total		Right	Thru	Left	App. Total		Right	Thru	Left	App. Total		Right	Thru	Left	App. Total		Int. Total
Peak Hour Analysis From 03:00 PM to 06:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	5	3	0	8		5	112	12	129		22	6	16	44		20	94	8	122		303
05:15 PM	7	4	1	12		3	108	12	123		15	4	21	40		10	78	15	103		278
05:30 PM	6	4	4	14		4	102	11	117		16	9	18	43		14	98	15	127		301
05:45 PM	10	5	2	17		0	86	11	97		19	6	17	42		15	105	14	134		290
Total Volume	28	16	7	51		12	408	46	466		72	25	72	169		59	375	52	486		1172
% App. Total	54.9	31.4	13.7			2.6	87.6	9.9			42.6	14.8	42.6			12.1	77.2	10.7			
PHF	.700	.800	.438	.750		.600	.911	.958	.903		.818	.694	.857	.960		.738	.893	.867	.907		.967

Appendix D

Signal Timing Data

Programmed EPAC Data

4/20/2018
2:34:32PM

Intersection Name: Patrick Henry-Toms Creek-UCB

Intersection Alias: pattomuech

Access Code: 9999 Channel: 1 Address: 0 Revision: 3.34g
IP:

Access Data :1200 Baud
:9600 Baud

Phase Data

Vehical Basic Timings								Vehical Density Timings		Time B4 Reduction	Cars Before	Time To Reduce	Time To Min_Gap	
Phase	Min_Grn	Passage	Max1	Max2	Yellow	All Red		Added	Initial	Max_Initial				
1	5	3.0	15	15	3.6	2.7		0.0	0		0	0	0	0.0
2	15	3.0	45	45	3.6	2.7		0.0	0		0	0	0	0.0
3	5	3.0	20	20	3.6	2.2		0.0	0		0	0	0	0.0
4	8	3.0	40	40	3.6	2.2		0.0	0		0	0	0	0.0
5	5	3.0	15	15	3.6	2.7		0.0	0		0	0	0	0.0
6	15	3.0	45	45	3.6	2.7		0.0	0		0	0	0	0.0
7	5	3.0	25	25	3.6	2.2		0.0	0		0	0	0	0.0
8	8	3.0	35	35	3.6	2.2		0.0	0		0	0	0	0.0

Pedestrian Timing				Extended Actuated				General Control				Miscellaneous			
Phase	Ped Walk	Flashing Clear	Ped Walk	Rest	Non-Act Initialize	Veh Response	Ped Recall	Recall Delay	Non Lock	Dual Entry	Last Passage	Car Service	Conditional	Simultaneous Gap Out	
1	0	0	No	0	No	Inactive	None	None	0	Yes	No	No	No	No	
2	7	18	No	0	No	Green	NonActI	Min	0	Yes	No	No	No	No	
3	0	0	No	0	No	Inactive	None	None	0	Yes	No	No	No	No	
4	7	10	No	0	No	Inactive	NonActII	None	0	Yes	No	No	No	No	
5	0	0	No	0	No	Inactive	None	None	0	Yes	No	No	No	No	
6	7	18	No	0	No	Green	NonActI	Min	0	Yes	No	No	No	No	
7	0	0	No	0	No	Inactive	None	None	0	Yes	No	No	No	No	
8	7	10	No	0	No	Inactive	NonActII	None	0	Yes	No	No	No	No	

Special Sequence Default Data		Vehical Detector Phase Assignment					
		Assigned Phase	Mode	Switched Phase	Extend	Delay	
Vehical Detector Channel :1		1	Veh	6	0.0	0	
Vehical Detector Channel :2		2	Veh	0	0.0	0	
Vehical Detector Channel :3		3	Veh	8	0.0	0	
Vehical Detector Channel :4		4	Veh	0	0.0	0	
Vehical Detector Channel :5		5	Veh	2	0.0	0	
Vehical Detector Channel :6		6	Veh	0	0.0	0	
Vehical Detector Channel :7		7	Veh	4	0.0	0	
Vehical Detector Channel :8		8	Veh	0	0.0	0	

Pedestrian Detector Default Data		Special Detector Phase Assignment					
		Assign Phase	Mode	Switched Phase	Extend	Delay	
		:					
		Default Data					

Unit Data

General Control

Startup Time: 5sec	Startup State: Flash	Red Revert: 4.0sec
Auto Ped Clear: No	Stop Time Reset: No	Alternate Sequence: 0
Aux Switch Func: 0:NoFunction		
ABC connector Input Modes: 0	Ring	Input Response Selection
	1	Ring 1 Ring 1
ABC connector Output Modes: 0	2	Ring 2 Ring 2
D connector Input Modes: 2	3	None None
D connector Output Modes: 0	4	None None

Remote Flash		Flash	Flash
Test A = Flash No		Channel	Color
		1	Red
		2	Red
		3	Red
		4	Red
		5	Red
		6	Red
		7	Red
		8	Red
		13	Red
		14	Red
		15	Red
		16	Red
			Yes

Overlaps

Phase(s)	Overlaps															
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
A	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Yellow	4.0	2.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Red	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Stop Grn/Yel Phase	2	4	6	8	0	0	0	0	0	0	0	0	0	0	0	0
Strat Green Phase	1	3	5	7	0	0	0	0	0	0	0	0	0	0	0	0

Ring

Phase	Ring	Next Phase	Phase(s)															
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	1	2																
2	1	3																
3	1	4																
4	1	1																
5	2	6																
6	2	7																
7	2	8																
8	2	5																

Alternate Sequences

No Alternate Sequences Programmed

Port 1 Data
BIU Port Message
Addr Status 40

Default Data

Control	Channel	Hardware Pins	Control	Channel	Hardware Pins
1 - Veh Phase 1	1	1 - Phase 1 RYG	2 - Veh Phase 2	2	2 - Phase 2 RYG
3 - Veh Phase 3	3	3 - Phase 3 RYG	4 - Veh Phase 4	4	4 - Phase 4 RYG
5 - Veh Phase 5	5	5 - Phase 5 RYG	6 - Veh Phase 6	6	6 - Phase 6 RYG
7 - Veh Phase 7	7	7 - Phase 7 RYG	8 - Veh Phase 8	8	8 - Phase 8 RYG
18 - Ped Phase 2	9	10 - Phase 2 DPW	20 - Ped Phase 4	10	12 - Phase 4 DPW
22 - Ped Phase 6	11	14 - Phase 6 DPW	24 - Ped Phase 8	12	16 - Phase 8 DPW
33 - Overlap A	13	17 - Overlap A RYG	34 - Overlap B	14	18 - Overlap B RYG
35 - Overlap C	15	19 - Overlap C RYG	36 - Overlap D	16	20 - Overlap D RYG
17 - Ped Phase 1	17	9 - Phase 1 DPW	19 - Ped Phase 3	18	11 - Phase 3 DPW
21 - Ped Phase 5	19	13 - Phase 5 DPW	23 - Ped Phase 7	20	15 - Phase 7 DPW

Coordination Data

General Coordination Data

Operation Mode: 0=Free

Offset Mode: 0=Beg Grn

Manual Dial: 1

Coordination Mode: 0=Permissive

Force Mode: 0=Plan

Manual Split: 1

Maximum Mode: 2=Max 2

Max Dwell Time: 0

Manual Offset: 1

Correction Mode: 0=Dwell

Yield Period: 0

Split Times and Phase Mode

Dial / Split

Ph. Splits Ph. Mode

Ph. Splits Ph. Mode

Ph. Splits Ph. Mode

Ph. Splits Ph. Mode

Traffic Plan Data

Plan: // Offset Time: Alt. Sequence: Mode: Rg 2 Lag Time: Rg 3 Lag Time: Rg 4 Lag Time:

Local TBC Data

Start of Daylight Saving Month: 0 Week: 0 Cycle Zero Reference Hours: 0 Min: 0

End of Daylight Saving Month: 0 Week: 0

Source	Equate Days						
	Day	1	2	3	4	5	6

Traffic Data

Event	Day	Time	D/S/O	flash	PHASE FUNCTION														
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

AUX. Events

Event	Program	Day	Hour	Aux Outputs	Det.	Det.	Det.	Special Function Outputs								
					Diag.	Rpt.	Mult100	Dimming	1	2	3	4	5	6	7	8
					<input type="checkbox"/>											

Default Data - No Special Day(s) or Week(s) Programmed

Special Functions

	SF1	SF2	SF3	SF4	SF5	SF6	SF7	SF8
Special Function 1	X							
Special Function 2		X						
Special Function 3			X					
Special Function 4				X				
Special Function 5					X			
Special Function 6						X		
Special Function 7							X	
Special Function 8								X

Phase Function

Phase Function Map	PF1	PF2	PF3	PF4	PF5	PF6	PF7	PF8	PF9	PF10	PF11	PF12	PF13	PF14	PF15	PF16
Phase 1 Max2	X															
Phase 2 Max2		X														
Phase 3 Max2			X													
Phase 4 Max2				X												
Phase 5 Max2					X											
Phase 6 Max2						X										
Phase 7 Max2							X									
Phase 8 Max2								X								
Phase 1 Phase Omit									X							
Phase 2 Phase Omit										X						
Phase 3 Phase Omit											X					
Phase 4 Phase Omit												X				
Phase 5 Phase Omit													X			
Phase 6 Phase Omit														X		
Phase 7 Phase Omit															X	
Phase 8 Phase Omit																X

Dimming Data

Channel Red Yellow Green Alternate

Default Data - No Dimming Programmed

Preemption Data

General Preemption Data

Flash > Preempt 1, Preempt 1 > Preempt 2, Preempt 2 > Preempt 3, Preempt 3 > Preempt 4, Preempt 4 > Preempt 5, Preempt 5 > Preempt 6

Ring 1 Min GRN/WLK = 10 Ring 2 Min GRN/WLK = 10 Ring 3 Min GRN/WLK = 10 Ring 4 Min GRN/WLK = 10

Preempt	Preempt Timers							Select	Track			D well	Return				
	Non- Link to	Locking	Prmpt	Delay	Extend	Duration	MaxCall	Lck-Out	GateExt	Debounce	Ped Clr	Yel Red	Grn Ped	Yel Red	Ped Grn	Yel Red	
1	No	0	0	0	0	0	0	0	0.0	0	40	0	0	0	40	0	
2	No	0	0	0	0	0	0	0	0.0	0	40	0	0	0	40	0	
3	No	0	0	0	0	0	0	0	0.0	0	40	0	0	0	40	0	
4	No	0	0	0	0	0	0	0	0.0	0	40	0	0	0	40	0	
5	No	0	0	0	0	0	0	0	0.0	0	40	0	0	0	40	0	
6	No	0	0	0	0	0	0	0	0.0	0	40	0	0	0	40	0	
1	No	0	0	0	0	0	0	0	0.0	8	40	20	10	8	40	20	
2	No	0	0	0	0	0	0	0	0.0	8	40	20	10	8	40	20	
3	No	0	0	0	0	0	0	0	0.0	8	40	20	10	8	40	20	
4	No	0	0	0	0	0	0	0	0.60	0.0	8	40	20	10	8	40	20
5	No	0	0	0	0	0	0	0	0.0	8	40	20	10	8	40	20	
6	No	0	0	0	0	0	0	0	0.0	8	40	20	10	8	40	20	

Preempt 1			Preempt 2			Preempt 3			Preempt 4			Preempt 5			Preempt 6		
Phase	Exit	Exit															
	Phase	Calls	Phase	Phase	Calls												
1	No	Yes															
2	No	Yes	2	Yes	Yes	2	Yes	Yes	2	No	Yes	2	No	Yes	2	No	Yes
3	No	Yes															
4	No	Yes	4	No	Yes	4	No	Yes	4	Yes	Yes	4	Yes	Yes	4	No	Yes
5	No	Yes															
6	No	Yes	6	Yes	Yes	6	Yes	Yes	6	No	Yes	6	No	Yes	6	No	Yes
7	No	Yes															
8	No	Yes	8	No	Yes	8	No	Yes	8	Yes	Yes	8	Yes	Yes	8	No	Yes

Priority Timers

Priority	Non-Locking	Delay	Extend	Duration	Dwell	Max_Call	Lock-Out	Skip Phases
1	No	0	0	0	0	0	0	0=Do not Skip Phases
2	No	0	0	0	0	0	0	0=Do not Skip Phases
3	No	0	0	0	0	0	0	0=Do not Skip Phases
4	No	0	0	0	0	0	0	0=Do not Skip Phases
5	No	0	0	0	0	0	0	0=Do not Skip Phases
6	No	0	0	0	0	0	0	0=Do not Skip Phases

Priority 1			Priority 2			Priority 3			Priority 4			Priority 5			Priority 6		
Exit	Exit	Exit															
Phase	Phase	Calls															

Preempt 1

Vehical Phases			Pedestrian Phases						Overlaps		
Ph.	Track	Dwell	Cycle	Ph.	Track	Dwell	Cycle	Ovlp	Track	Dwell	Cycle
1	Red	Red	No	1	Don't Walk	Don't Walk	No	A	Red	Red	No
2	Red	Red	No	2	Don't Walk	Don't Walk	No	B	Red	Red	No
3	Red	Red	No	3	Don't Walk	Don't Walk	No	C	Red	Red	No
4	Red	Red	No	4	Don't Walk	Don't Walk	No	D	Red	Red	No
5	Red	Red	No	5	Don't Walk	Don't Walk	No	E	Red	Red	No
6	Red	Red	No	6	Don't Walk	Don't Walk	No	F	Red	Red	No
7	Red	Red	No	7	Don't Walk	Don't Walk	No	G	Red	Red	No
8	Red	Red	No	8	Don't Walk	Don't Walk	No	H	Red	Red	No
9	Red	Red	No	9	Don't Walk	Don't Walk	No	I	Red	Red	No
10	Red	Red	No	10	Don't Walk	Don't Walk	No	J	Red	Red	No
11	Red	Red	No	11	Don't Walk	Don't Walk	No	K	Red	Red	No
12	Red	Red	No	12	Don't Walk	Don't Walk	No	L	Red	Red	No
13	Red	Red	No	13	Don't Walk	Don't Walk	No	M	Red	Red	No
14	Red	Red	No	14	Don't Walk	Don't Walk	No	N	Red	Red	No
15	Red	Red	No	15	Don't Walk	Don't Walk	No	O	Red	Red	No
16	Red	Red	No	16	Don't Walk	Don't Walk	No	P	Red	Red	No

Preempt 2

Vehical Phases			Pedestrian Phases						Overlaps		
Ph.	Track	Dwell	Cycle	Ph.	Track	Dwell	Cycle	Ovlp	Track	Dwell	Cycle
1	Red	Green	No	1	Don't Walk	Don't Walk	No	A	Red	Red	No
2	Red	Red	No	2	Don't Walk	Don't Walk	No	B	Red	Red	No
3	Red	Red	No	3	Don't Walk	Don't Walk	No	C	Red	Red	No
4	Red	Red	No	4	Don't Walk	Don't Walk	No	D	Red	Red	No
5	Red	Red	No	5	Don't Walk	Don't Walk	No	E	Red	Red	No
6	Red	Green	No	6	Don't Walk	Don't Walk	No	F	Red	Red	No
7	Red	Red	No	7	Don't Walk	Don't Walk	No	G	Red	Red	No
8	Red	Red	No	8	Don't Walk	Don't Walk	No	H	Red	Red	No
9	Red	Red	No	9	Don't Walk	Don't Walk	No	I	Red	Red	No
10	Red	Red	No	10	Don't Walk	Don't Walk	No	J	Red	Red	No
11	Red	Red	No	11	Don't Walk	Don't Walk	No	K	Red	Red	No
12	Red	Red	No	12	Don't Walk	Don't Walk	No	L	Red	Red	No
13	Red	Red	No	13	Don't Walk	Don't Walk	No	M	Red	Red	No
14	Red	Red	No	14	Don't Walk	Don't Walk	No	N	Red	Red	No
15	Red	Red	No	15	Don't Walk	Don't Walk	No	O	Red	Red	No
16	Red	Red	No	16	Don't Walk	Don't Walk	No	P	Red	Red	No

Preempt 3

Preempt 4

Preempt 5

Preempt 6

Vehical Phases			Pedestrian Phases			Overlaps					
Ph.	Track	Dwell	Cycle	Ph.	Track	Dwell	Cycle	Ovlp.	Track	Dwell	Cycle
1	Red	Red	No	1	Don't Walk	Don't Walk	No	A	Red	Red	No
2	Red	Red	No	2	Don't Walk	Don't Walk	No	B	Red	Red	No
3	Red	Red	No	3	Don't Walk	Don't Walk	No	C	Red	Red	No
4	Red	Red	No	4	Don't Walk	Don't Walk	No	D	Red	Red	No
5	Red	Red	No	5	Don't Walk	Don't Walk	No	E	Red	Red	No
6	Red	Red	No	6	Don't Walk	Don't Walk	No	F	Red	Red	No
7	Red	Red	No	7	Don't Walk	Don't Walk	No	G	Red	Red	No
8	Red	Red	No	8	Don't Walk	Don't Walk	No	H	Red	Red	No
9	Red	Red	No	9	Don't Walk	Don't Walk	No	I	Red	Red	No
10	Red	Red	No	10	Don't Walk	Don't Walk	No	J	Red	Red	No
11	Red	Red	No	11	Don't Walk	Don't Walk	No	K	Red	Red	No
12	Red	Red	No	12	Don't Walk	Don't Walk	No	L	Red	Red	No
13	Red	Red	No	13	Don't Walk	Don't Walk	No	M	Red	Red	No
14	Red	Red	No	14	Don't Walk	Don't Walk	No	N	Red	Red	No
15	Red	Red	No	15	Don't Walk	Don't Walk	No	O	Red	Red	No
16	Red	Red	No	16	Don't Walk	Don't Walk	No	P	Red	Red	No

System/Detectors Data

Revert to Backup: 15

Cycle Failure: No	Local Fash: No	Special Status 1: No
Local Free: No	Cycle Fault: No	Special Status 2: No
Coord Failure: No	Coord Fault: No	Special Status 3: No
Conflict Flash: No	Preemption: No	Special Status 4: No
Remote Flash: No	Voltage Monitor: No	Special Status 5: No
		Special Status 6: No

Traffic Responsive

System Detector	Average Veh/Hr	Occupancy Time(mins)	Min Correction/10	Queue 1 Volume %	System Detectors	Weight Factor	Queue 2 System Detectors	Weight Factor
Detector Channel								

Default Data

Sample Interval:

Queue: 1	Input Selection: 0=Average	Queue:	Default Data
	Detector Failed Level : 0	Level Enter Leave	Dial / Split / Offset
Queue: 2	Input Selection: 0=Average		/ /
	Detector Failed Level : 0	Default Data	

Vehical Detector

Diagnostic Value 0		
Max	No	Erratic
Detector Presence	Activity	Count

Vehical Detector

Diagnostic Value 1		
Max	No	Erratic
Detector Presence	Activity	Count

Special Detector

Diagnostic Value 0		
Max	No	Erratic
Detector Presence	Activity	Count

Default Data - Diag 0 Values

Pedestrian Detector		
Diagnostic Value 0		
Max	No	Erratic
Detector Presence	Activity	Count

Default Data - No Diag 1 Values

Pedestrian Detector		
Diagnostic Value 1		
Max	No	Erratic
Detector Presence	Activity	Count

Default Data - No Diag 0 Val

Special Detector		
Diagnostic Value 1		
Max	No	Erratic
Detector Presence	Activity	Count

Default Data - No Diag 0 Values

Speed Trap Data		
Speed Trap:		
Measurement:		
Detector 1	Detector_2	Distance :

Default Data - No Diag 1 Values

Dial/Split/Offset		
//		
Default Data		

Default Data - No Diag 1 Values

Speed Trap	Speed Trap	
Low Treshold	High Treshold	

Default Data

Volume Detector Data

Report Interval

Volume Controller

Detector Detector

Number Channel

Default Data

Programmed EPAC Data

4/20/2018

2:48:12PM

Intersection Name: Patrick Henry-Progress

Access Code: 9999 Channel: 1 Address: 0 Revision: 3.33e
IP:

Phase Data

Intersection Alias:

pathenryprog Access Data
Patrick Henry-Progress

:1200 Baud

:9600 Baud

Vehical Basic Timings

Phase	Min_Grn	Passage	Max1	Max2	Yellow	All Red
1	15	3.0	30	30	3.4	2.1
2	15	3.0	30	50	3.1	2.2
3	5	3.0	20	30	3.1	3.3
4	8	3.0	20	50	3.0	2.4
7	5	3.0	20	30	3.0	2.4
8	8	3.0	20	50	3.1	3.3

Vehical Density Timings

Added	Initial	Max	Initial	Time B4 Reduction	Cars Before	Time To Reduce	Time To Min Gap
0.0	0	0	0	0	0	0	0.0
0.0	0	0	0	0	0	0	0.0
0.0	0	0	0	0	0	0	0.0
0.0	0	0	0	0	0	0	0.0
0.0	0	0	0	0	0	0	0.0
0.0	0	0	0	0	0	0	0.0

Pedestrian Timing

Extended Actuated

General Control

Miscellaneous

No

Phase	Ped Walk	Clear	Flashing Walk	Ped Clear	Rest in Walk	Non-Act Initialize	Veh Response	Ped Recall	Recall Delay	Non Lock	Dual Entry	Last Passage	Conditional Service	Simultaneous Gap Out
1	5	11	No	0	No	Inactive	None	None	0	Yes	Yes	No	No	No
2	5	10	No	0	No	Green	NonActI	Min	0	Yes	No	No	No	No
3	0	0	No	0	No	Inactive	None	None	0	Yes	No	No	No	No
4	5	13	No	0	No	Inactive	NonActII	None	0	Yes	Yes	No	No	No
7	0	0	No	0	No	Inactive	None	None	0	Yes	No	No	No	No
8	5	13	No	0	No	Inactive	NonActII	None	0	Yes	Yes	No	No	No

Special Sequence

Default Data

Vehical Detector Phase Assignment

Assigned Phase

Mode

Switched Phase

Extend

Delay

Default Data

Pedestrian Detector

Default Data

Special Detector Phase Assignment

Assign Phase Mode

Switched Phase Extend

Delay

Default Data

Unit Data

General Control

Startup Time: 5sec Startup State: Flash Red Revert: 4.0sec

Auto Ped Clear: No Stop Time Reset: No Alternate Sequence: 0

Aux Switch Func: 0:NoFunction

	Input Ring	Output Response	Selection
	Phase	Phase	Phase
1	Ring 1	Ring 1	
2	Ring 2	Ring 2	
3	None	None	
4	None	None	

Remote Flash

Test A = Flash

Channel Flash Color Flash Alternat

Flash Entry

Flash Exit

Default Data - No Flash

Default Data - No Flash

Overlaps

Phase(s)	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Yellow	4.0	2.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Red	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Stop Grn/Yel Phase	0	0	0	0	0	0	0	0	650	0	0	0	0	0	0	0
Strat Green Phase	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Ring			Phase(s)																
Phase	Ring	Next Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
			Concurrent Phases	1	2	3	4	1	1	3	3	9	10	11	12	13	14	15	16
1	1	2		5	5	7	7	2	2	4	4								
2	1	3		6	6	8	8	5	6	7	8								
3	1	4																	
4	1	1																	
7	2	8																	
8	2	5																	

Alternate Sequences

No Alternate Sequences Programmed

Port 1 Data
BIU Port Message
Addr Status 40

Default Data

Control	Channel	Hardware Pins	Control	Channel	Hardware Pins
1 - Veh Phase 1	1	1 - Phase 1 RYG	2 - Veh Phase 2	2	2 - Phase 2 RYG
3 - Veh Phase 3	3	3 - Phase 3 RYG	4 - Veh Phase 4	4	4 - Phase 4 RYG
5 - Veh Phase 5	5	5 - Phase 5 RYG	6 - Veh Phase 6	6	6 - Phase 6 RYG
7 - Veh Phase 7	7	7 - Phase 7 RYG	8 - Veh Phase 8	8	8 - Phase 8 RYG
18 - Ped Phase 2	9	10 - Phase 2 DPW	20 - Ped Phase 4	10	12 - Phase 4 DPW
22 - Ped Phase 6	11	14 - Phase 6 DPW	24 - Ped Phase 8	12	16 - Phase 8 DPW
33 - Overlap A	13	17 - Overlap A RYG	34 - Overlap B	14	18 - Overlap B RYG
35 - Overlap C	15	19 - Overlap C RYG	36 - Overlap D	16	20 - Overlap D RYG
17 - Ped Phase 1	17	9 - Phase 1 DPW	19 - Ped Phase 3	18	11 - Phase 3 DPW
21 - Ped Phase 5	19	13 - Phase 5 DPW	23 - Ped Phase 7	20	15 - Phase 7 DPW

Coordination Data

General Coordination Data

Dial/Split Cycle /
Operation Mode: 0=Free
Offset Mode: 0=Beg Grn

Coordination Mode: 0=Permissive
Force Mode: 0=Plan

Maximun Mode: 2=Max 2
Max Dwell Time: 0

Correction Mode: 0=Dwell
Yield Period: 0

Manual Dial: 1

Manual Split: 1

Manual Offset: 1

Split Times and Phase Mode

Dial / Split

Ph. Splits Ph. Mode

Ph. Splits Ph. Mode

Ph. Splits Ph. Mode

Ph. Splits Ph. Mode

Traffic Plan Data

Plan: // Offset Time: Alt. Sequence: Mode: Rg 2 Lag Time: Rg 3 Lag Time: Rg 4 Lag Time:

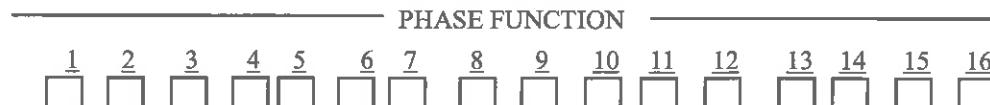
Local TBC Data

Start of Daylight Saving Month: 3 Week: 2 Cycle Zero Reference Hours: 0 Min: 0

End of Daylight Saving Month: 11 Week: 1

Source Day	1	2	3	4	5	6	7
Equate Days							

Traffic Data



AUX. Events

Event	Program Day	Hour	Min.	Aux Outputs 1 2 3	Det. Diag. Det. Rpt. Det. Mult100			Special Function Outputs								
					D1	D2	D3	Dimming	1	2	3	4	5	6	7	8
				<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Special Functions

Function	SF1	SF2	SF3	SF4	SF5	SF6	SF7	SF8
Special Function 1	X							
Special Function 2		X						
Special Function 3			X					
Special Function 4				X				
Special Function 5					X			
Special Function 6						X		
Special Function 7							X	
Special Function 8								X

Phase Function

Phase Function Map	PF1	PF2	PF3	PF4	PF5	PF6	PF7	PF8	PF9	PF10	PF11	PF12	PF13	PF14	PF15	PF16
Phase 1 Max2	X															
Phase 2 Max2		X														
Phase 3 Max2			X													
Phase 4 Max2				X												
Phase 5 Max2					X											
Phase 6 Max2						X										
Phase 7 Max2							X									
Phase 8 Max2								X								
Phase 1 Phase Omit									X							
Phase 2 Phase Omit										X						
Phase 3 Phase Omit											X					
Phase 4 Phase Omit												X				
Phase 5 Phase Omit													X			
Phase 6 Phase Omit														X		
Phase 7 Phase Omit															X	
Phase 8 Phase Omit																X

Dimming Data

Channel Red Yellow Green Alternate



Default Data - No Dimming Programmed

Preemption Data

General Preemption Data

Flash > Preempt 1, Preempt 1 > Preempt 2, Preempt 2 > Preempt 3, Preempt 3 > Preempt 4, Preempt 4 > Preempt 5, Preempt 5 > Preempt 6
 Ring 1 Min GRN/WLK = 5 Ring 2 Min GRN/WLK = 5 Ring 3 Min GRN/WLK = 5 Ring 4 Min GRN/WLK = 5

Preempt 2

Preempt 3

Preempt 4

Preempt 5

Vehical Phases			Pedestrian Phases			Overlaps					
Ph.	Track	Dwell	Cycle	Ph.	Track	Dwell	Cycle	Ovlp.	Track	Dwell	Cycle
1	Red	Green	No	1	Don't Walk	Don't Walk	No	A	Red	Red	No
2	Red	Red	No	2	Don't Walk	Don't Walk	No	B	Red	Red	No
3	Red	Red	No	3	Don't Walk	Don't Walk	No	C	Red	Red	No
4	Red	Red	No	4	Don't Walk	Don't Walk	No	D	Red	Red	No
5	Red	Red	No	5	Don't Walk	Don't Walk	No	E	Red	Red	No
6	Red	Red	No	6	Don't Walk	Don't Walk	No	F	Red	Red	No
7	Red	Red	No	7	Don't Walk	Don't Walk	No	G	Red	Red	No
8	Red	Red	No	8	Don't Walk	Don't Walk	No	H	Red	Red	No
9	Red	Red	No	9	Don't Walk	Don't Walk	No	I	Red	Red	No
10	Red	Red	No	10	Don't Walk	Don't Walk	No	J	Red	Red	No
11	Red	Red	No	11	Don't Walk	Don't Walk	No	K	Red	Red	No
12	Red	Red	No	12	Don't Walk	Don't Walk	No	L	Red	Red	No
13	Red	Red	No	13	Don't Walk	Don't Walk	No	M	Red	Red	No
14	Red	Red	No	14	Don't Walk	Don't Walk	No	N	Red	Red	No
15	Red	Red	No	15	Don't Walk	Don't Walk	No	O	Red	Red	No
16	Red	Red	No	16	Don't Walk	Don't Walk	No	P	Red	Red	No

Preempt 6

Vehical Phases			Pedestrian Phases			Overlaps					
Ph.	Track	Dwell	Cycle	Ph.	Track	Dwell	Cycle	Ovlp.	Track	Dwell	Cycle
1	Red	Red	No	1	Don't Walk	Don't Walk	No	A	Red	Red	No
2	Red	Red	No	2	Don't Walk	Don't Walk	No	B	Red	Red	No
3	Red	Red	No	3	Don't Walk	Don't Walk	No	C	Red	Red	No
4	Red	Red	No	4	Don't Walk	Don't Walk	No	D	Red	Red	No
5	Red	Red	No	5	Don't Walk	Don't Walk	No	E	Red	Red	No
6	Red	Red	No	6	Don't Walk	Don't Walk	No	F	Red	Red	No
7	Red	Red	No	7	Don't Walk	Don't Walk	No	G	Red	Red	No
8	Red	Red	No	8	Don't Walk	Don't Walk	No	H	Red	Red	No
9	Red	Red	No	9	Don't Walk	Don't Walk	No	I	Red	Red	No
10	Red	Red	No	10	Don't Walk	Don't Walk	No	J	Red	Red	No
11	Red	Red	No	11	Don't Walk	Don't Walk	No	K	Red	Red	No
12	Red	Red	No	12	Don't Walk	Don't Walk	No	L	Red	Red	No
13	Red	Red	No	13	Don't Walk	Don't Walk	No	M	Red	Red	No
14	Red	Red	No	14	Don't Walk	Don't Walk	No	N	Red	Red	No
15	Red	Red	No	15	Don't Walk	Don't Walk	No	O	Red	Red	No
16	Red	Red	No	16	Don't Walk	Don't Walk	No	P	Red	Red	No

System/Detectors Data

Local Critical Alarms

Revert to Backup: 15

Cycle Failure: No	Local Fash: No	Special Status 1: No
Local Free: No	Cycle Fault: No	Special Status 2: No
Coord Failure: No	Coord Fault: No	Special Status 3: No
Conflict Flash: No	Premption: No	Special Status 4: No
Remote Flash: No	Voltage Monitor: No	Special Status 5: No
		Special Status 6: No

Traffic Responsive

System Detector	Average Veh/Hr	Occupancy Time(mins)	Min Correction/10	Queue 1 Volume %	System Detectors	Weight Factor	Queue 2 System Detectors	Weight Factor
Detector Channel								

Default Data

Sample Interval:

Default Data			Default Data		
Queue: 1 Input Selection: 0=Average			Queue:		
Detector Failed Level : 0			Level Enter Leave Dial / Split / Offset		
Queue: 2 Input Selection: 0=Average			/ /		
Detector Failed Level : 0			Default Data		

Vehical Detector

Diagnostic Value 0

Max No Erratic
Detector Presence Activity Count

Vehical Detector

Diagnostic Value 1

Max No Erratic
Detector Presence Activity Count

Special Detector

Diagnostic Value 0

Max No Erratic
Detector Presence Activity Count

Default Data - Diag 0 Values

70
Default Data - No Diag 1 Values

Default Data - No Diag 0 Valt

Pedestrian Detector

Diagnostic Value 0

Max No Erratic
Detector Presence Activity Count

Default Data - No Diag 0 Values

Speed Trap Data

Speed Trap:

Measurement:

Detector 1 Detector_2 Distance :

Pedestrian Detector

Diagnostic Value 1

Max No Erratic
Detector Presence Activity Count

Default Data - No Diag 1 Values

Dial/Split/Offset
//

Default Data

Special Detector

Diagnostic Value 1

Max No Erratic
Detector Presence Activity Count

Default Data - No Diag 1 Values

Speed Trap Speed Trap
Low Treshold High Treshold

Default Data

Volume Detector Data

Report Interval

Volume Controller

Detector Detector

Number Channel

Default Data

Appendix E

Existing Terrace View Map & Unit Counts

TERRACE VIEW SITE PLAN



PHASE I&II = GREY
PHASE III = BLACK
PHASE IV = RED
PHASE V = BLUE

PHASE VI = YELLOW
PHASE VII = PURPLE
PHASE VIII = ORANGE
PHASE IX = GREEN

From: Craig Rebovich <CRebovich@reliantgroup.com>
Sent: Monday, April 23, 2018 2:39 PM
To: Sanj Kakar <skakar@reliantgroup.com>; Steve Semones <ssemones@balzer.cc>
Cc: Matt Whyland <mwhyland@reliantgroup.com>
Subject: RE: Traffic study

Does this work?

Beds - Units Per Phase		
	Beds	Units
1	99	56
2	152	58
3	207	99
4	246	120
5	257	107
6	257	104
7	171	98
8	256	87
9	75	27

1720 756

A - Phase 4-8			B - Phase 1-3, 9		
	Beds	Units		Beds	Units
4	246	120		1	99
5	257	107		2	152
6	257	104		3	207
7	171	98		9	75
8	256	87			

533 240

1187 516

Craig Rebovich
 Acquisitions Analyst
RELIANT GROUP MANAGEMENT
 5250 Lankershim Blvd, #500
 North Hollywood, CA 91601
 O : (415) 914-2386
 C : (724) 322-4639
 E : crebovich@reliantgroup.com

Visit us on the web at www.reliantgroup.com

Appendix F

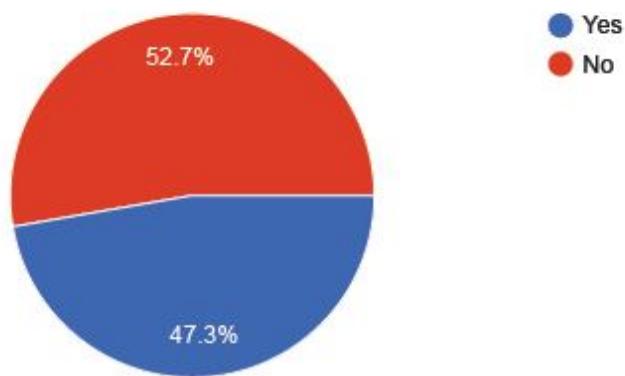
Terrace View Parking Survey

Terrace View- Parking Survey

620 responses

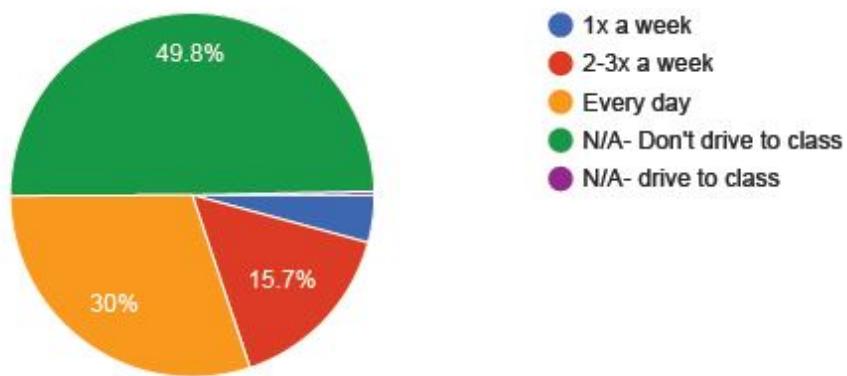
Do you drive to class?

620 responses



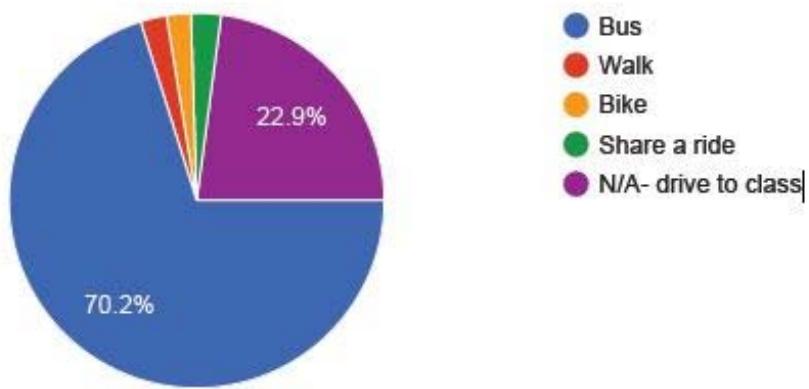
How often do you drive to class?

619 responses



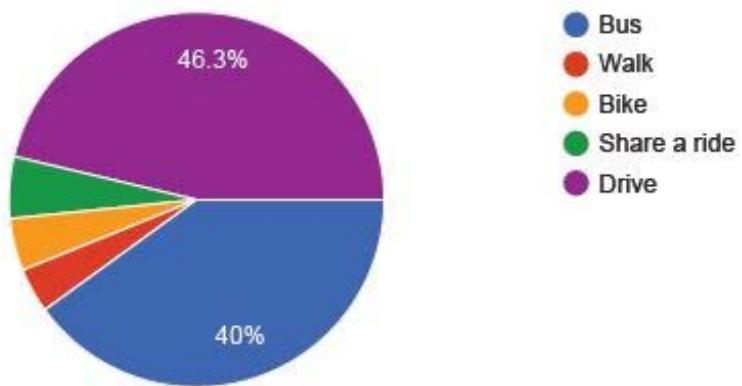
If you do not drive to class, what is your typical method?

620 responses



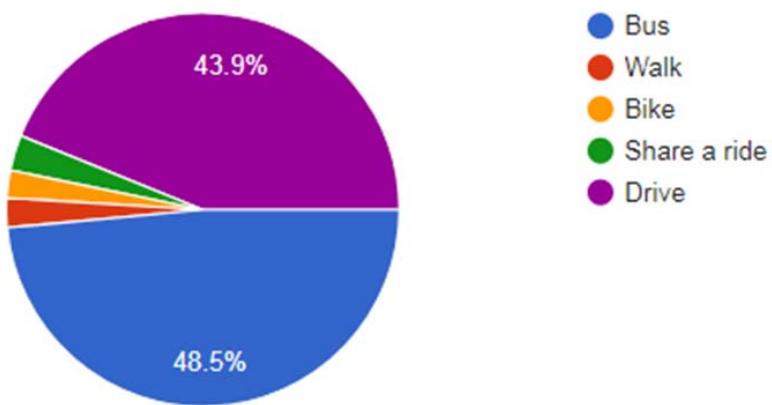
Which would be your preferred method?

620 responses



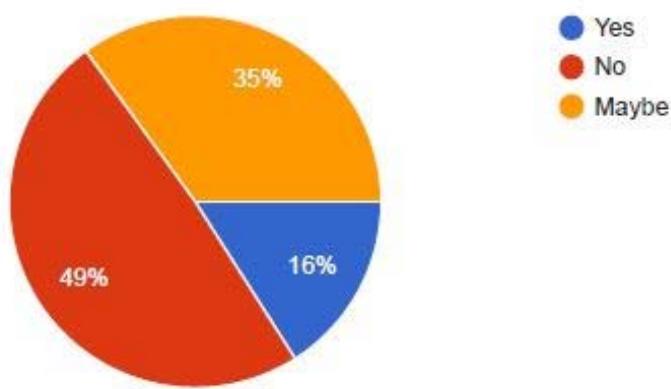
What is your typical/preferred method to get back home?

620 responses



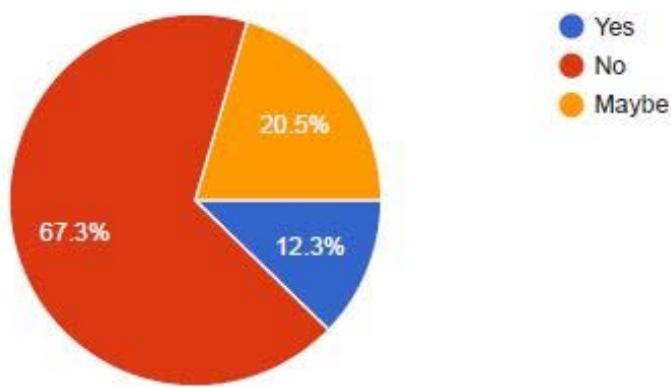
Would you use a car share program?

620 responses



Would you use a bike share program?

620 responses



How could BT service be improved for Terrace View?

269 responses

N/A (9)

More stops (4)

n/a (3)

Bus stop on Hunt Club Road (2)

It is good (2)

N/a (2)

They could send more than one bus if their buses are going to continue to be full

They are already fine

If there would be a stop in the Hunt

Club Rd. No, my house at 24H has

easy access

More double buses - buses are often full and therefore leave students at stops, making us late for class

I hate Terrace View, a bus aint gunna change anything.

It would be nice to have a bus stop along Hunt Club Rd but I know that's

unlikely. Full service on toms creek northbound during weekends

More accurate schedules i.e. a bus was very late one day and I almost missed a class

I don't think it can be. Reliable and on time with convenient stops on progress street and toms creek.

better service/ more buses during peak hours

More frequent buses during busy times. Better website that is more up-to-date with maps that don't require you to check 20 different routes to find the one that takes you where you want to go.

I think it is good.

Keep stop #1337 in the Intermittent Service route for Tom's Creek.

The tom's creek bus could come to progress on the weekdays

More buses so they don't drive right by your stop when you have class in 15 mins.

I think it is fine now

Good now- but keep up the access

Better service on the weekends, clearer route schedules.

Service is good already on progress street

Bus stop on Tom's creek could use some covering or something.

Busses more often

Good

Toms Creek bus at both ends of terrace view

I live close to a stop so I don't know how it could be improved much, but imagine it might be hike for those further in the community.

I would like to see a crosswalk on Tom's Creek road. It's especially hard to cross during rush-hour.

I feel as if it is fine the way it currently operates.

N A

Better bus stop buildings

Fine how it is

I really think it's good if you live on the right side of

terrace stop inside complex

More stops within Terrace Larger, more enclosed bus stop buildings so I don't have to stand in the rain, snow, cold, etc.

A stop in Hunt Club Road would be awesome!

a bus on hunt club

Better bus stop on Tom's Creek Road Send a bus more often than it does now

Show the three closest buses not just the closest bus

It's already great

More

More frequent bus stops

More stops near the town houses

More busses running down to TV and also have other routes come here too like PHD

Send the longer buses on the routes right before classes. Everyone's always packed in or can't fit everyone

Less crowded busses, more frequent busses pass 6:00

Its fine

Rain coverings over all bus stops

Go through Hunt Club Road

Have UCB stop where Toms creek does

No improvement needed, there are multiple bus stops nearby

More buses

Place a stop at the clubhouse. Or even better make the timecheck somewhere in terrace.

I live right next to two bus stops, I so think it is fine right now. Maybe if a stop could be made on Hunt Club Rd? A route through the complex, at the club house maybe.

I am ok with the current service

It's great the way it is

I think BT is really good at TV. TV probably has the best bus service of any apartment complex at Tech. I have 2 bus stops right outside my door that both come every 10 min. I am the first stop for the progress st bus and the 2nd stop for the UCB bus so I never have a problem with a full bus, but the bus is sometimes full at the 2nd or 3rd stop at TV. The UCB bus should probably be a double bus because it is always full by the 3rd stop. Progress st is usually a double bus but when it isn't, its full by the 2nd stop.

BT does a good job

UCB should be a larger bus

Idk

Maybe in the mornings have two UCB buses one right after the other since the UCB bus is always crowded and people further down Progress street can't go on it sometimes because the bus is so full. So they have to wait another 10 mins for the next UCB bus.

it's great where i am (right on toms creek) but i imagine it's pretty inaccessible further down hunt club

Stop cutting down all the trees they are by far the best part about this place
More buses running through in the morning, I've been late to class so many times because the buses were full, one would pass and the one behind it would be full too. I've even left almost an hour before my class even started and this happens.

Too many "full" buses pass

Return to original progress route which stopped at burress instead of squires. Find a way to make the earlier buses be less crowded.

My apt is right next to a few BT stops so i'm actually pretty happy with how things are.

Potentially have a stop near the clubhouse.

There are plenty of routes/access from where I live (where Hunt Club meets Progress st.) I could see how others who live where Toms Creek and Hunt Club meet would have problems with bus access. The bus stops do get crowded though.

No complaints

Have an app or something so you know when it's full and will skip your stop making you late

Have a stop on Hunt Club Road. Also, have crosswalks on Tom's Creek/Progress so pedestrians have the right of way instead of having to jay walk.

Provide Shelters at Bus stop for rain, hot summer or snow etc

If you could get a bus to come through Hunt Club Rd. that would probably help people who live on the interior of the complex.

Slightly earlier times and more stops

have crosswalks so we can get to the bus stops

na

ITS fine the way it is

I'm at the front, but for people in the center of TV there should be another stop

If there was a map that showed us the current location of the bus we want to take.

There are not many bus stops around Terrace View. You have to walk quite a long distance to catch the bus. I would recommend increasing the number of routes along the Terrace View.

Don't support Terrace View anymore

n/a it's great

Going through Hunt Club Drive for potential additional stops

more stops throughout the community and consistently provide larger buses because we are often passed due to full buses during peak times

More bus routes that go to downtown at night

Not an issue for me personally but it seems be inconvenient for people at the center of the complex

Have the Tom's Creek route go by all of Terrace View.

Better sidewalks to bus stops like the one on progress street at the intersection with broce.

more stops and faster service

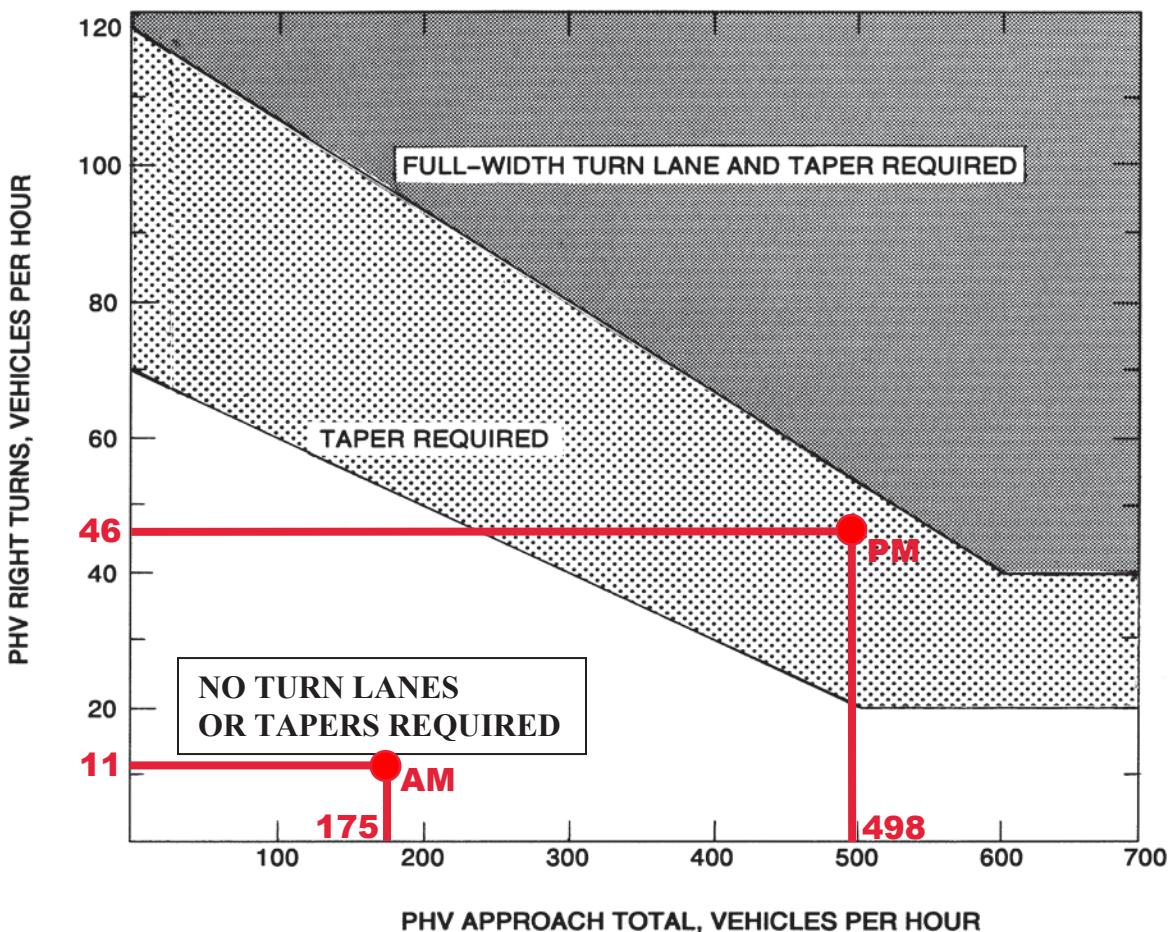
less time stops right before terrace view

No.

Other (153)

Appendix G

VDOT Turn Lane Worksheets



Appropriate Radius required at all Intersections and Entrances (Commercial or Private).

LEGEND

PHV - Peak Hour Volume (also Design Hourly Volume equivalent)

Adjustment for Right Turns

For posted speeds at or under 45 mph, PHV right turns > 40, and PHV total < 300.

Adjusted right turns = PHV Right Turns - 20

If PHV is not known use formula: PHV = ADT x K x D

K = the percent of AADT occurring in the peak hour

D = the percent of traffic in the peak direction of flow

Note: An average of 11% for K x D will suffice.

When right turn facilities are warranted, see Figure 3-1 for design criteria.*

FIGURE 3-26 WARRANTS FOR RIGHT TURN TREATMENT (2-LANE HIGHWAY)

WARRANT FOR LEFT-TURN STORAGE LANES ON TWO-LANE HIGHWAY

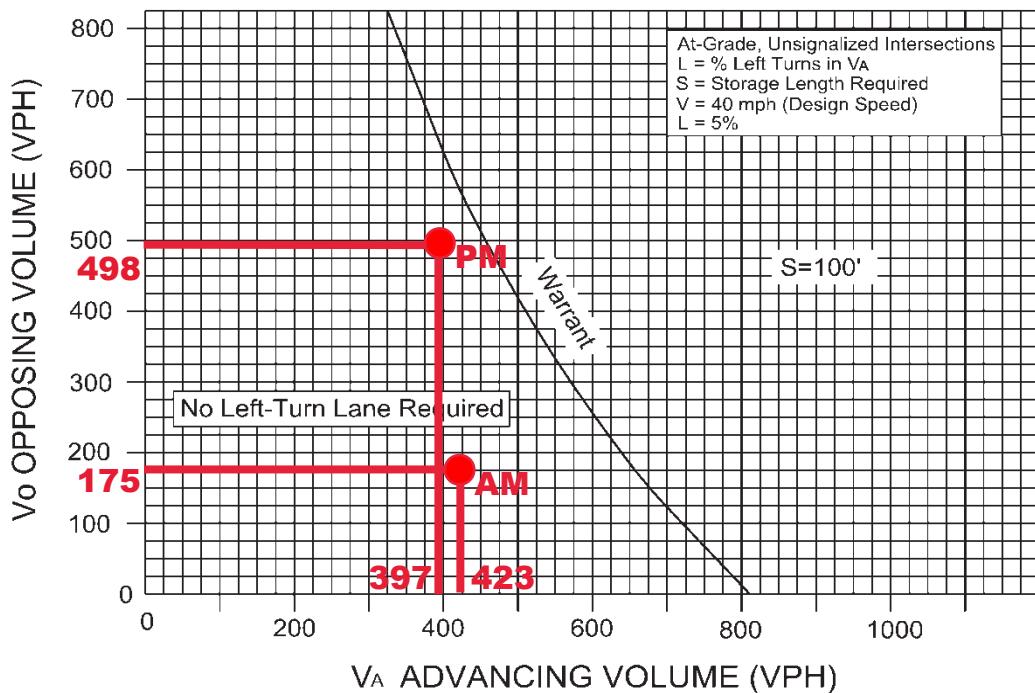


FIGURE 3-5

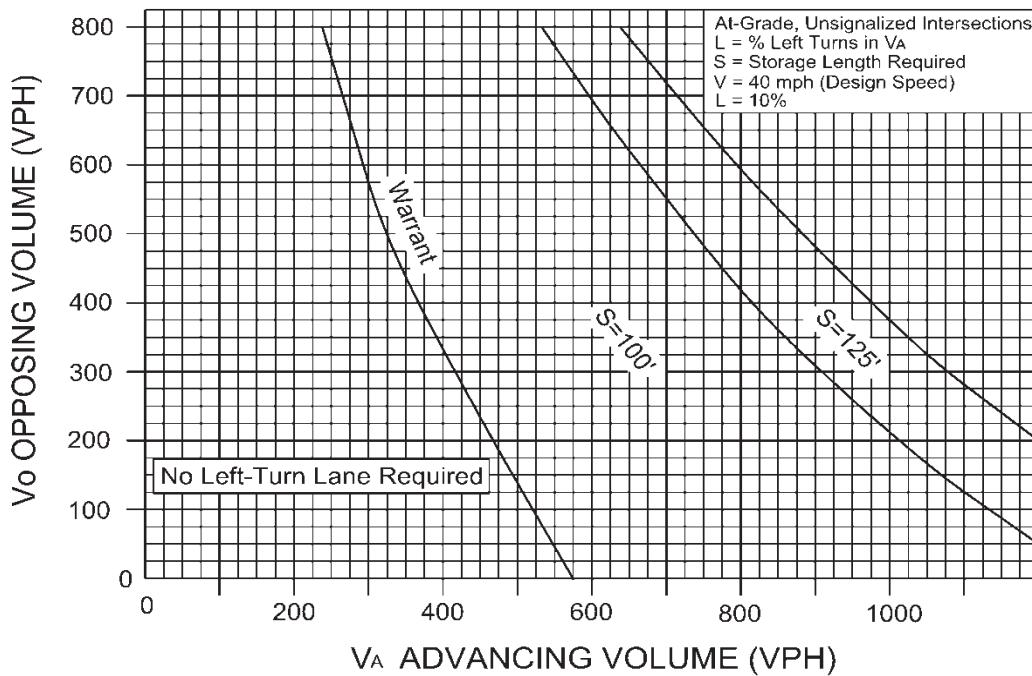
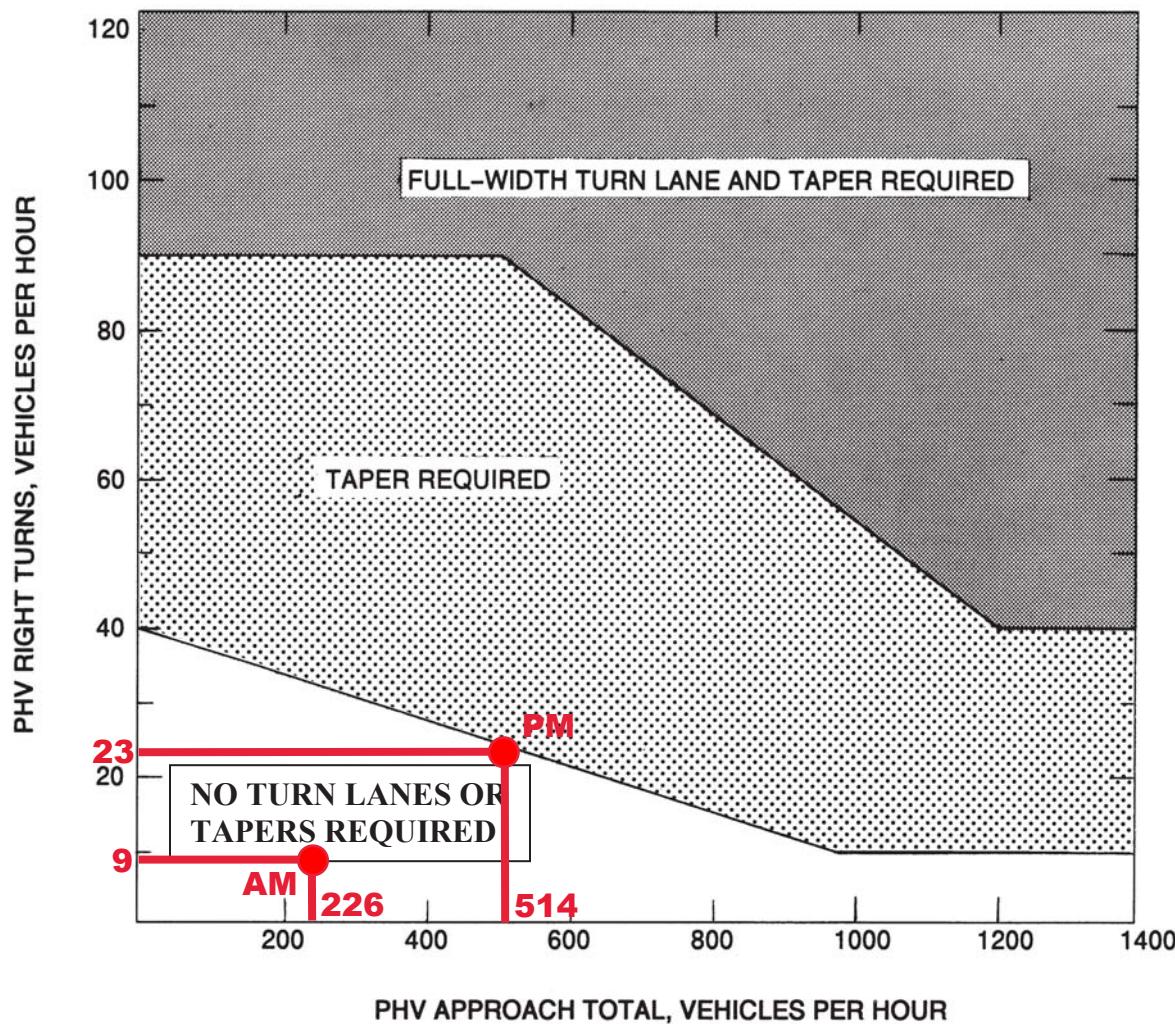


FIGURE 3-6



Appropriate Radius required at all Intersections and Entrances (Commercial or Private).

LEGEND

PHV - Peak Hour Volume (also Design Hourly Volume equivalent)

Adjustment for Right Turns

If PHV is not known use formula: $\text{PHV} = \text{ADT} \times K \times D$

K = the percent of AADT occurring in the peak hour

D = the percent of traffic in the peak direction of flow

Note: An average of 11% for K x D will suffice.

When right turn facilities are warranted, see Figure 3-1 for design criteria.*

FIGURE 3-27 WARRANTS FOR RIGHT TURN TREATMENT (4-LANE HIGHWAY)

Warrants for Left Turn Storage Lanes on Four-Lane Highways

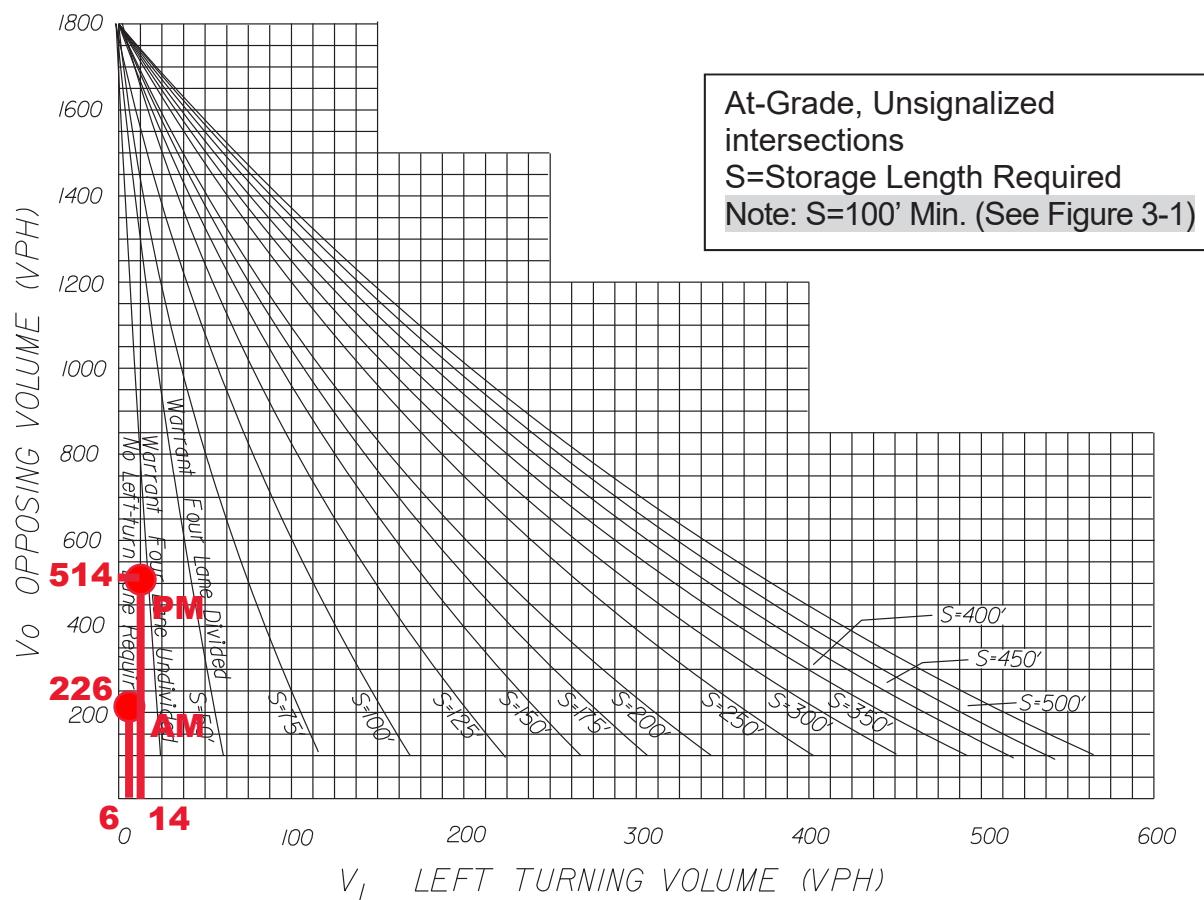


FIGURE 3-3 WARRANTS FOR LEFT TURN STORAGE LANES ON FOUR-LANE HIGHWAYS*

Figure 3-3 was derived from Highway Research Report No. 211.

Opposing volume and left turning volume in vehicles per hour (VPH) are used for left turn storage lane warrants on four-lane highways.

For plan detail requirements when curb and/or gutter are used, see VDOT's Road Design Manual, Section 2E-3 on the VDOT web site:

<http://www.virginiadot.org/business/locdes/rdmanual-index.asp>.

Left-turn lanes shall also be established on two-lane highways where traffic volumes are high enough to warrant them.

Appendix H

Synchro 10 & SimTraffic 10 Intersection Analysis Data

HCM 2010 Signalized Intersection Summary
 3: Toms Creek Rd & University City Blvd/Patrick Henry Dr

04/27/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑	↑↑		↑	↑↑		↑	↑↑		↑	↑↑	
Traffic Volume (veh/h)	38	86	59	161	134	122	26	108	35	99	194	88
Future Volume (veh/h)	38	86	59	161	134	122	26	108	35	99	194	88
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.97			0.94	0.97		0.96	0.98		0.99	1.00	0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1780	1900	1827	1864	1900	1496	1844	1900	1810	1900	1900
Adj Flow Rate, veh/h	43	98	67	183	152	139	30	123	40	112	220	100
Adj No. of Lanes	1	2	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	3	10	10	4	0	0	27	4	4	5	0	0
Cap, veh/h	302	367	226	479	226	207	314	382	124	495	397	180
Arrive On Green	0.04	0.19	0.19	0.11	0.26	0.26	0.03	0.29	0.29	0.07	0.32	0.32
Sat Flow, veh/h	1757	1962	1207	1740	877	802	1425	1332	433	1723	1222	556
Grp Volume(v), veh/h	43	83	82	183	0	291	30	0	163	112	0	320
Grp Sat Flow(s),veh/h/ln	1757	1691	1478	1740	0	1679	1425	0	1765	1723	0	1778
Q Serve(g_s), s	1.2	2.5	2.9	4.7	0.0	9.3	0.9	0.0	4.3	2.7	0.0	8.8
Cycle Q Clear(g_c), s	1.2	2.5	2.9	4.7	0.0	9.3	0.9	0.0	4.3	2.7	0.0	8.8
Prop In Lane	1.00			0.82	1.00		0.48	1.00		0.25	1.00	0.31
Lane Grp Cap(c), veh/h	302	316	277	479	0	433	314	0	506	495	0	577
V/C Ratio(X)	0.14	0.26	0.30	0.38	0.00	0.67	0.10	0.00	0.32	0.23	0.00	0.55
Avail Cap(c_a), veh/h	831	830	726	879	0	824	518	0	1163	676	0	1171
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	18.4	20.7	20.9	15.2	0.0	19.9	14.5	0.0	16.7	13.3	0.0	16.6
Incr Delay (d2), s/veh	0.2	0.4	0.6	0.5	0.0	1.8	0.1	0.0	0.4	0.2	0.0	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	1.2	1.2	2.3	0.0	4.5	0.3	0.0	2.1	1.3	0.0	4.4
LnGrp Delay(d),s/veh	18.6	21.2	21.5	15.7	0.0	21.7	14.6	0.0	17.1	13.6	0.0	17.4
LnGrp LOS	B	C	C	B		C	B		B	B		B
Approach Vol, veh/h	208				474			193			432	
Approach Delay, s/veh	20.7				19.4			16.7			16.4	
Approach LOS	C				B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.5	25.1	7.0	21.1	8.7	22.8	11.3	16.9				
Change Period (Y+Rc), s	4.5	5.7	4.5	5.7	4.5	5.7	4.5	5.7				
Max Green Setting (Gmax), s	10.5	39.3	20.5	29.3	10.5	39.3	20.5	29.3				
Max Q Clear Time (g_c+l1), s	2.9	10.8	3.2	11.3	4.7	6.3	6.7	4.9				
Green Ext Time (p_c), s	0.0	2.2	0.1	1.8	0.1	1.0	0.4	1.0				
Intersection Summary												
HCM 2010 Ctrl Delay				18.2								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary

6: Progress St & Patrick Henry Dr

04/27/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	179	25	27	272	4	30	11	10	2	38	44
Future Volume (veh/h)	19	179	25	27	272	4	30	11	10	2	38	44
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Q _b), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A _{pbT})	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1773	1900	1900	1840	1900	1776	1900	1900	1900	1874	1900
Adj Flow Rate, veh/h	21	197	27	30	299	4	33	12	11	2	42	48
Adj No. of Lanes	0	2	0	0	2	1	1	1	0	1	1	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	4	4	4	1	1	0	7	0	0	0	3	3
Cap, veh/h	36	351	50	84	883	437	90	118	108	139	122	140
Arrive On Green	0.13	0.13	0.13	0.27	0.27	0.27	0.05	0.13	0.13	0.08	0.15	0.15
Sat Flow, veh/h	286	2779	397	311	3261	1615	1691	914	838	1810	799	913
Grp Volume(v), veh/h	129	0	116	176	153	4	33	0	23	2	0	90
Grp Sat Flow(s),veh/h/ln	1759	0	1703	1824	1748	1615	1691	0	1752	1810	0	1713
Q Serve(g_s), s	3.8	0.0	3.5	4.3	3.9	0.1	1.0	0.0	0.6	0.1	0.0	2.6
Cycle Q Clear(g_c), s	3.8	0.0	3.5	4.3	3.9	0.1	1.0	0.0	0.6	0.1	0.0	2.6
Prop In Lane	0.16		0.23	0.17		1.00	1.00		0.48	1.00		0.53
Lane Grp Cap(c), veh/h	222	0	215	494	473	437	90	0	226	139	0	262
V/C Ratio(X)	0.58	0.00	0.54	0.36	0.32	0.01	0.37	0.00	0.10	0.01	0.00	0.34
Avail Cap(c_a), veh/h	777	0	753	806	773	714	488	0	569	522	0	556
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	22.8	0.0	22.7	16.3	16.2	14.8	25.3	0.0	21.3	23.6	0.0	21.0
Incr Delay (d2), s/veh	2.4	0.0	2.1	0.4	0.4	0.0	2.5	0.0	0.2	0.0	0.0	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	0.0	1.8	2.2	1.9	0.0	0.5	0.0	0.3	0.0	0.0	1.3
LnGrp Delay(d),s/veh	25.2	0.0	24.8	16.8	16.5	14.8	27.8	0.0	21.5	23.7	0.0	21.8
LnGrp LOS	C		C	B	B	B	C		C	C		C
Approach Vol, veh/h		245			333			56			92	
Approach Delay, s/veh		25.0			16.6			25.2			21.8	
Approach LOS		C			B			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+R _c), s	12.5	9.8	12.7		20.5	8.5	14.0					
Change Period (Y+R _c), s	5.5	5.5	5.5		5.5	5.5	5.5					
Max Green Setting (Gmax), s	24.5	16.0	18.0		24.5	16.0	18.0					
Max Q Clear Time (g_c+l1), s	5.8	2.1	2.6		6.3	3.0	4.6					
Green Ext Time (p_c), s	1.3	0.0	0.0		1.8	0.0	0.3					
Intersection Summary												
HCM 2010 Ctrl Delay				20.8								
HCM 2010 LOS				C								

Summary of All Intervals

Run Number	1	10	2	3	4	5	6
Start Time	8:15	8:15	8:15	8:15	8:15	8:15	8:15
End Time	9:30	9:30	9:30	9:30	9:30	9:30	9:30
Total Time (min)	75	75	75	75	75	75	75
Time Recorded (min)	60	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1	1
Vehs Entered	1231	1336	1211	1282	1255	1265	1249
Vehs Exited	1240	1334	1212	1288	1259	1270	1250
Starting Vehs	28	30	27	28	36	31	23
Ending Vehs	19	32	26	22	32	26	22
Travel Distance (mi)	478	519	480	506	490	489	485
Travel Time (hr)	27.0	30.2	27.7	29.3	28.1	28.7	28.1
Total Delay (hr)	7.5	9.0	8.1	8.8	8.2	8.9	8.3
Total Stops	1197	1317	1207	1284	1224	1283	1266
Fuel Used (gal)	19.3	21.1	19.5	20.5	19.9	20.2	19.9

Summary of All Intervals

Run Number	7	8	9	Avg
Start Time	8:15	8:15	8:15	8:15
End Time	9:30	9:30	9:30	9:30
Total Time (min)	75	75	75	75
Time Recorded (min)	60	60	60	60
# of Intervals	2	2	2	2
# of Recorded Intervals	1	1	1	1
Vehs Entered	1273	1207	1264	1258
Vehs Exited	1269	1203	1255	1257
Starting Vehs	30	27	26	27
Ending Vehs	34	31	35	23
Travel Distance (mi)	486	476	495	490
Travel Time (hr)	28.5	27.6	28.2	28.3
Total Delay (hr)	8.7	8.3	8.1	8.4
Total Stops	1307	1204	1242	1254
Fuel Used (gal)	20.0	19.4	20.2	20.0

Interval #0 Information Seeding

Start Time	8:15
End Time	8:30
Total Time (min)	15
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

Interval #1 Information Recording

Start Time 8:30

End Time 9:30

Total Time (min) 60

Volumes adjusted by Growth Factors.

Run Number	1	10	2	3	4	5	6
Vehs Entered	1231	1336	1211	1282	1255	1265	1249
Vehs Exited	1240	1334	1212	1288	1259	1270	1250
Starting Vehs	28	30	27	28	36	31	23
Ending Vehs	19	32	26	22	32	26	22
Travel Distance (mi)	478	519	480	506	490	489	485
Travel Time (hr)	27.0	30.2	27.7	29.3	28.1	28.7	28.1
Total Delay (hr)	7.5	9.0	8.1	8.8	8.2	8.9	8.3
Total Stops	1197	1317	1207	1284	1224	1283	1266
Fuel Used (gal)	19.3	21.1	19.5	20.5	19.9	20.2	19.9

Interval #1 Information Recording

Start Time 8:30

End Time 9:30

Total Time (min) 60

Volumes adjusted by Growth Factors.

Run Number	7	8	9	Avg
Vehs Entered	1273	1207	1264	1258
Vehs Exited	1269	1203	1255	1257
Starting Vehs	30	27	26	27
Ending Vehs	34	31	35	23
Travel Distance (mi)	486	476	495	490
Travel Time (hr)	28.5	27.6	28.2	28.3
Total Delay (hr)	8.7	8.3	8.1	8.4
Total Stops	1307	1204	1242	1254
Fuel Used (gal)	20.0	19.4	20.2	20.0

Queuing and Blocking Report

Baseline

04/27/2018

Intersection: 3: Toms Creek Rd & University City Blvd/Patrick Henry Dr

Movement	EB	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	TR	L	TR	L	TR
Maximum Queue (ft)	65	110	82	161	210	87	144	124	217
Average Queue (ft)	24	48	36	73	99	23	60	52	93
95th Queue (ft)	56	92	69	130	174	65	116	109	173
Link Distance (ft)		466	466	2132	2132		454		466
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	150				100		125		
Storage Blk Time (%)		0				0	2	0	3
Queuing Penalty (veh)		0				0	1	0	2

Intersection: 6: Progress St & Patrick Henry Dr

Movement	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	LT	TR	LT	T	R	L	TR	L	TR
Maximum Queue (ft)	109	125	183	121	28	64	48	23	92
Average Queue (ft)	51	56	75	32	3	25	16	1	34
95th Queue (ft)	86	101	138	79	17	57	43	10	68
Link Distance (ft)	2132	2132	525	525			460		447
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)				225	100		150		
Storage Blk Time (%)									
Queuing Penalty (veh)									

Network Summary

Network wide Queuing Penalty: 4

HCM 2010 Signalized Intersection Summary
 3: Toms Creek Rd & University City Blvd/Patrick Henry Dr

04/27/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑	↑↑		↑	↑↑		↑	↑↑		↑	↑↑	
Traffic Volume (veh/h)	136	229	61	164	167	236	89	276	106	161	157	91
Future Volume (veh/h)	136	229	61	164	167	236	89	276	106	161	157	91
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q (Q _b), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.98	0.99		0.96	0.98		0.97	0.99	0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1881	1856	1900	1827	1839	1900	1759	1900	1900	1881	1900	1900
Adj Flow Rate, veh/h	145	244	65	174	178	251	95	294	113	171	167	97
Adj No. of Lanes	1	2	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	1	3	3	4	1	1	8	0	0	1	0	0
Cap, veh/h	276	777	202	473	200	282	384	367	141	320	351	204
Arrive On Green	0.08	0.28	0.28	0.10	0.30	0.30	0.06	0.28	0.28	0.09	0.32	0.32
Sat Flow, veh/h	1792	2760	719	1740	674	950	1675	1298	499	1792	1113	647
Grp Volume(v), veh/h	145	154	155	174	0	429	95	0	407	171	0	264
Grp Sat Flow(s),veh/h/ln	1792	1763	1715	1740	0	1624	1675	0	1797	1792	0	1760
Q Serve(g_s), s	4.6	5.6	5.8	5.7	0.0	20.7	3.2	0.0	17.2	5.4	0.0	9.9
Cycle Q Clear(g_c), s	4.6	5.6	5.8	5.7	0.0	20.7	3.2	0.0	17.2	5.4	0.0	9.9
Prop In Lane	1.00			0.42	1.00		0.59	1.00		0.28	1.00	0.37
Lane Grp Cap(c), veh/h	276	496	483	473	0	482	384	0	508	320	0	555
V/C Ratio(X)	0.53	0.31	0.32	0.37	0.00	0.89	0.25	0.00	0.80	0.53	0.00	0.48
Avail Cap(c_a), veh/h	579	631	614	742	0	581	503	0	863	389	0	845
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	20.8	23.1	23.2	17.8	0.0	27.5	19.2	0.0	27.2	19.9	0.0	22.6
Incr Delay (d2), s/veh	1.5	0.4	0.4	0.5	0.0	14.0	0.3	0.0	3.0	1.4	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	2.8	2.8	2.7	0.0	11.0	1.5	0.0	8.9	2.7	0.0	4.9
LnGrp Delay(d),s/veh	22.3	23.5	23.6	18.3	0.0	41.5	19.6	0.0	30.2	21.3	0.0	23.2
LnGrp LOS	C	C	C	B		D	B		C	C		C
Approach Vol, veh/h	454				603				502			435
Approach Delay, s/veh	23.2				34.8				28.2			22.4
Approach LOS	C				C				C			C
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+R _c), s	9.2	31.5	11.1	30.0	11.9	28.8	12.4	28.7				
Change Period (Y+R _c), s	4.5	5.7	4.5	5.7	4.5	5.7	4.5	5.7				
Max Green Setting (Gmax), s	10.5	39.3	20.5	29.3	10.5	39.3	20.5	29.3				
Max Q Clear Time (g_c+l1), s	5.2	11.9	6.6	22.7	7.4	19.2	7.7	7.8				
Green Ext Time (p_c), s	0.1	1.8	0.3	1.6	0.1	2.7	0.4	1.8				
Intersection Summary												
HCM 2010 Ctrl Delay					27.8							
HCM 2010 LOS					C							

HCM 2010 Signalized Intersection Summary

6: Progress St & Patrick Henry Dr

04/27/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	52	375	59	46	408	12	72	25	72	7	16	28
Future Volume (veh/h)	52	375	59	46	408	12	72	25	72	7	16	28
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Q _b), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.96	1.00		0.97	1.00		0.97	1.00	0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1879	1900	1900	1850	1900	1727	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	54	387	61	47	421	12	74	26	74	7	16	29
Adj No. of Lanes	0	2	0	0	2	1	1	1	0	1	1	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	2	2	0	10	0	0	0	0	0
Cap, veh/h	78	583	96	79	745	358	121	66	189	124	91	164
Arrive On Green	0.21	0.21	0.21	0.23	0.23	0.23	0.07	0.16	0.16	0.07	0.15	0.15
Sat Flow, veh/h	376	2797	461	344	3246	1559	1645	425	1210	1810	598	1084
Grp Volume(v), veh/h	267	0	235	250	218	12	74	0	100	7	0	45
Grp Sat Flow(s),veh/h/ln	1861	0	1774	1833	1757	1559	1645	0	1635	1810	0	1683
Q Serve(g_s), s	8.7	0.0	7.9	8.0	7.1	0.4	2.9	0.0	3.6	0.2	0.0	1.5
Cycle Q Clear(g_c), s	8.7	0.0	7.9	8.0	7.1	0.4	2.9	0.0	3.6	0.2	0.0	1.5
Prop In Lane	0.20		0.26	0.19		1.00	1.00		0.74	1.00		0.64
Lane Grp Cap(c), veh/h	388	0	370	421	404	358	121	0	256	124	0	255
V/C Ratio(X)	0.69	0.00	0.63	0.59	0.54	0.03	0.61	0.00	0.39	0.06	0.00	0.18
Avail Cap(c_a), veh/h	698	0	665	687	659	585	403	0	451	443	0	464
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	23.9	0.0	23.6	22.4	22.1	19.5	29.3	0.0	24.8	28.4	0.0	24.2
Incr Delay (d2), s/veh	2.2	0.0	1.8	1.3	1.1	0.0	4.9	0.0	1.0	0.2	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.7	0.0	4.0	4.2	3.6	0.2	1.5	0.0	1.7	0.1	0.0	0.7
LnGrp Delay(d),s/veh	26.1	0.0	25.4	23.8	23.3	19.6	34.2	0.0	25.7	28.6	0.0	24.5
LnGrp LOS	C		C	C	B	C			C	C		C
Approach Vol, veh/h	502				480				174			52
Approach Delay, s/veh	25.8				23.4				29.4			25.0
Approach LOS	C				C				C			C
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2	3	4		6	7	8					
Phs Duration (G+Y+R _c), s	19.1	10.0	15.7		20.5	10.3	15.4					
Change Period (Y+R _c), s	5.5	5.5	5.5		5.5	5.5	5.5					
Max Green Setting (Gmax), s	24.5	16.0	18.0		24.5	16.0	18.0					
Max Q Clear Time (g_c+l1), s	10.7	2.2	5.6		10.0	4.9	3.5					
Green Ext Time (p_c), s	2.7	0.0	0.4		2.5	0.1	0.1					
Intersection Summary												
HCM 2010 Ctrl Delay				25.3								
HCM 2010 LOS				C								

Summary of All Intervals

Run Number	1	10	2	3	4	5	6
Start Time	4:45	4:45	4:45	4:45	4:45	4:45	4:45
End Time	6:00	6:00	6:00	6:00	6:00	6:00	6:00
Total Time (min)	75	75	75	75	75	75	75
Time Recorded (min)	60	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1	1
Vehs Entered	2032	2082	2033	2083	1999	2089	2119
Vehs Exited	2026	2054	2021	2083	2015	2096	2128
Starting Vehs	57	55	49	52	53	62	64
Ending Vehs	63	83	61	52	37	55	55
Travel Distance (mi)	808	820	806	826	809	840	846
Travel Time (hr)	55.7	56.7	57.9	62.0	56.2	60.2	61.2
Total Delay (hr)	22.9	23.4	25.0	28.4	23.2	26.0	26.7
Total Stops	2385	2362	2386	2537	2388	2530	2543
Fuel Used (gal)	35.5	36.0	36.0	37.4	35.4	37.6	37.9

Summary of All Intervals

Run Number	7	8	9	Avg
Start Time	4:45	4:45	4:45	4:45
End Time	6:00	6:00	6:00	6:00
Total Time (min)	75	75	75	75
Time Recorded (min)	60	60	60	60
# of Intervals	2	2	2	2
# of Recorded Intervals	1	1	1	1
Vehs Entered	2053	2112	2097	2069
Vehs Exited	2027	2073	2100	2063
Starting Vehs	43	46	56	51
Ending Vehs	69	85	53	55
Travel Distance (mi)	801	833	832	822
Travel Time (hr)	57.1	60.6	57.5	58.5
Total Delay (hr)	24.5	26.6	23.6	25.0
Total Stops	2411	2503	2457	2452
Fuel Used (gal)	35.8	37.3	36.6	36.5

Interval #0 Information Seeding

Start Time	4:45
End Time	5:00
Total Time (min)	15
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

Interval #1 Information Recording

Start Time 5:00

End Time 6:00

Total Time (min) 60

Volumes adjusted by Growth Factors.

Run Number	1	10	2	3	4	5	6
Vehs Entered	2032	2082	2033	2083	1999	2089	2119
Vehs Exited	2026	2054	2021	2083	2015	2096	2128
Starting Vehs	57	55	49	52	53	62	64
Ending Vehs	63	83	61	52	37	55	55
Travel Distance (mi)	808	820	806	826	809	840	846
Travel Time (hr)	55.7	56.7	57.9	62.0	56.2	60.2	61.2
Total Delay (hr)	22.9	23.4	25.0	28.4	23.2	26.0	26.7
Total Stops	2385	2362	2386	2537	2388	2530	2543
Fuel Used (gal)	35.5	36.0	36.0	37.4	35.4	37.6	37.9

Interval #1 Information Recording

Start Time 5:00

End Time 6:00

Total Time (min) 60

Volumes adjusted by Growth Factors.

Run Number	7	8	9	Avg
Vehs Entered	2053	2112	2097	2069
Vehs Exited	2027	2073	2100	2063
Starting Vehs	43	46	56	51
Ending Vehs	69	85	53	55
Travel Distance (mi)	801	833	832	822
Travel Time (hr)	57.1	60.6	57.5	58.5
Total Delay (hr)	24.5	26.6	23.6	25.0
Total Stops	2411	2503	2457	2452
Fuel Used (gal)	35.8	37.3	36.6	36.5

Queuing and Blocking Report

Baseline

04/27/2018

Intersection: 3: Toms Creek Rd & University City Blvd/Patrick Henry Dr

Movement	EB	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	TR	L	TR	L	TR
Maximum Queue (ft)	144	193	147	258	470	100	410	125	267
Average Queue (ft)	77	90	63	93	249	61	223	83	118
95th Queue (ft)	132	156	120	193	424	120	369	136	222
Link Distance (ft)		466	466	2132	2132		454		466
Upstream Blk Time (%)							0		
Queuing Penalty (veh)							0		
Storage Bay Dist (ft)	150					100		125	
Storage Blk Time (%)	0	1				1	34	1	5
Queuing Penalty (veh)	0	1				3	31	3	8

Intersection: 6: Progress St & Patrick Henry Dr

Movement	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	LT	TR	LT	T	R	L	TR	L	TR
Maximum Queue (ft)	171	192	248	204	34	96	136	29	59
Average Queue (ft)	100	116	137	88	8	50	43	5	22
95th Queue (ft)	157	175	217	172	30	91	89	21	48
Link Distance (ft)	2132	2132	525	525			460		447
Upstream Blk Time (%)						225	100		150
Queuing Penalty (veh)						0	2	0	
Storage Bay Dist (ft)						0	2	0	
Storage Blk Time (%)									
Queuing Penalty (veh)									

Network Summary

Network wide Queuing Penalty: 48

HCM 2010 Signalized Intersection Summary
3: Toms Creek Rd & University City Blvd/Patrick Henry Dr

04/27/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑ ↗	↑ ↘		↑ ↗	↑ ↘		↑ ↗	↑ ↘		↑ ↗	↑ ↘	
Traffic Volume (veh/h)	38	87	60	163	135	123	26	109	35	100	196	89
Future Volume (veh/h)	38	87	60	163	135	123	26	109	35	100	196	89
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.97			0.94	0.97		0.96	0.98		0.99	1.00	0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1780	1900	1827	1864	1900	1496	1844	1900	1810	1900	1900
Adj Flow Rate, veh/h	43	99	68	185	153	140	30	124	40	114	223	101
Adj No. of Lanes	1	2	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	3	10	10	4	0	0	27	4	4	5	0	0
Cap, veh/h	301	366	226	479	227	207	311	382	123	494	397	180
Arrive On Green	0.04	0.19	0.19	0.11	0.26	0.26	0.03	0.29	0.29	0.07	0.32	0.32
Sat Flow, veh/h	1757	1959	1210	1740	877	802	1425	1335	431	1723	1224	554
Grp Volume(v), veh/h	43	84	83	185	0	293	30	0	164	114	0	324
Grp Sat Flow(s),veh/h/ln	1757	1691	1477	1740	0	1679	1425	0	1766	1723	0	1778
Q Serve(g_s), s	1.2	2.5	2.9	4.8	0.0	9.4	0.9	0.0	4.4	2.7	0.0	9.0
Cycle Q Clear(g_c), s	1.2	2.5	2.9	4.8	0.0	9.4	0.9	0.0	4.4	2.7	0.0	9.0
Prop In Lane	1.00			0.82	1.00		0.48	1.00		0.24	1.00	0.31
Lane Grp Cap(c), veh/h	301	316	276	479	0	434	311	0	505	494	0	577
V/C Ratio(X)	0.14	0.27	0.30	0.39	0.00	0.67	0.10	0.00	0.32	0.23	0.00	0.56
Avail Cap(c_a), veh/h	829	829	724	877	0	823	515	0	1161	674	0	1169
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	18.4	20.8	20.9	15.2	0.0	19.9	14.5	0.0	16.8	13.4	0.0	16.7
Incr Delay (d2), s/veh	0.2	0.4	0.6	0.5	0.0	1.8	0.1	0.0	0.4	0.2	0.0	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	1.2	1.2	2.3	0.0	4.5	0.3	0.0	2.1	1.3	0.0	4.5
LnGrp Delay(d),s/veh	18.6	21.2	21.5	15.7	0.0	21.7	14.7	0.0	17.1	13.6	0.0	17.5
LnGrp LOS	B	C	C	B		C	B		B	B		B
Approach Vol, veh/h	210				478			194			438	
Approach Delay, s/veh	20.8				19.4			16.8			16.5	
Approach LOS	C				B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.5	25.1	7.1	21.2	8.7	22.8	11.3	16.9				
Change Period (Y+Rc), s	4.5	5.7	4.5	5.7	4.5	5.7	4.5	5.7				
Max Green Setting (Gmax), s	10.5	39.3	20.5	29.3	10.5	39.3	20.5	29.3				
Max Q Clear Time (g_c+l1), s	2.9	11.0	3.2	11.4	4.7	6.4	6.8	4.9				
Green Ext Time (p_c), s	0.0	2.3	0.1	1.8	0.1	1.0	0.4	1.0				
Intersection Summary												
HCM 2010 Ctrl Delay				18.3								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary

6: Progress St & Patrick Henry Dr

04/27/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	181	25	27	275	4	30	11	10	2	38	44
Future Volume (veh/h)	19	181	25	27	275	4	30	11	10	2	38	44
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Q _b), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A _{pbT})	1.00			1.00	1.00		1.00	1.00	1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/in	1900	1773	1900	1900	1840	1900	1776	1900	1900	1900	1874	1900
Adj Flow Rate, veh/h	21	199	27	30	302	4	33	12	11	2	42	48
Adj No. of Lanes	0	2	0	0	2	1	1	1	0	1	1	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	4	4	4	1	1	0	7	0	0	0	3	3
Cap, veh/h	36	354	50	83	883	437	90	118	108	139	122	140
Arrive On Green	0.13	0.13	0.13	0.27	0.27	0.27	0.05	0.13	0.13	0.08	0.15	0.15
Sat Flow, veh/h	284	2785	394	308	3265	1615	1691	914	838	1810	799	913
Grp Volume(v), veh/h	130	0	117	178	154	4	33	0	23	2	0	90
Grp Sat Flow(s), veh/h/in	1759	0	1704	1825	1748	1615	1691	0	1752	1810	0	1713
Q Serve(g_s), s	3.9	0.0	3.6	4.4	3.9	0.1	1.0	0.0	0.6	0.1	0.0	2.6
Cycle Q Clear(g_c), s	3.9	0.0	3.6	4.4	3.9	0.1	1.0	0.0	0.6	0.1	0.0	2.6
Prop In Lane	0.16		0.23	0.17		1.00	1.00		0.48	1.00		0.53
Lane Grp Cap(c), veh/h	224	0	216	493	473	437	90	0	226	139	0	262
V/C Ratio(X)	0.58	0.00	0.54	0.36	0.33	0.01	0.37	0.00	0.10	0.01	0.00	0.34
Avail Cap(c_a), veh/h	777	0	752	806	772	713	488	0	568	522	0	556
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	22.8	0.0	22.7	16.4	16.2	14.8	25.4	0.0	21.3	23.7	0.0	21.0
Incr Delay (d2), s/veh	2.4	0.0	2.1	0.4	0.4	0.0	2.5	0.0	0.2	0.0	0.0	0.8
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%), veh/in	2.0	0.0	1.8	2.2	1.9	0.0	0.5	0.0	0.3	0.0	0.0	1.3
LnGrp Delay(d), s/veh	25.2	0.0	24.8	16.8	16.6	14.8	27.8	0.0	21.5	23.7	0.0	21.8
LnGrp LOS	C		C	B	B	B	C		C	C		C
Approach Vol, veh/h	247				336			56			92	
Approach Delay, s/veh	25.0				16.7			25.2			21.8	
Approach LOS	C				B			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2	3	4		6	7	8					
Phs Duration (G+Y+R _c), s	12.5	9.8	12.7		20.5	8.5	14.0					
Change Period (Y+R _c), s	5.5	5.5	5.5		5.5	5.5	5.5					
Max Green Setting (G _{max}), s	24.5	16.0	18.0		24.5	16.0	18.0					
Max Q Clear Time (g _{c+l1}), s	5.9	2.1	2.6		6.4	3.0	4.6					
Green Ext Time (p _c), s	1.3	0.0	0.0		1.9	0.0	0.3					
Intersection Summary												
HCM 2010 Ctrl Delay				20.8								
HCM 2010 LOS				C								

Summary of All Intervals

Run Number	1	10	2	3	4	5	6
Start Time	8:15	8:15	8:15	8:15	8:15	8:15	8:15
End Time	9:30	9:30	9:30	9:30	9:30	9:30	9:30
Total Time (min)	75	75	75	75	75	75	75
Time Recorded (min)	60	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1	1
Vehs Entered	1144	1297	1278	1277	1314	1251	1259
Vehs Exited	1151	1300	1269	1267	1327	1255	1247
Starting Vehs	24	31	27	24	36	35	18
Ending Vehs	17	28	36	34	23	31	30
Travel Distance (mi)	448	503	506	497	516	483	489
Travel Time (hr)	25.2	28.6	29.7	28.4	30.6	27.7	28.3
Total Delay (hr)	7.0	8.4	9.0	8.2	9.6	8.0	8.5
Total Stops	1100	1287	1299	1272	1384	1246	1271
Fuel Used (gal)	17.8	20.2	21.0	20.3	21.4	19.5	19.8

Summary of All Intervals

Run Number	7	8	9	Avg
Start Time	8:15	8:15	8:15	8:15
End Time	9:30	9:30	9:30	9:30
Total Time (min)	75	75	75	75
Time Recorded (min)	60	60	60	60
# of Intervals	2	2	2	2
# of Recorded Intervals	1	1	1	1
Vehs Entered	1285	1274	1242	1263
Vehs Exited	1280	1262	1238	1259
Starting Vehs	26	22	18	24
Ending Vehs	31	34	22	28
Travel Distance (mi)	500	496	480	492
Travel Time (hr)	28.7	28.3	28.1	28.4
Total Delay (hr)	8.3	8.2	8.6	8.4
Total Stops	1264	1266	1244	1264
Fuel Used (gal)	20.4	20.0	19.6	20.0

Interval #0 Information Seeding

Start Time	8:15
End Time	8:30
Total Time (min)	15
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

Interval #1 Information Recording

Start Time 8:30

End Time 9:30

Total Time (min) 60

Volumes adjusted by Growth Factors.

Run Number	1	10	2	3	4	5	6
Vehs Entered	1144	1297	1278	1277	1314	1251	1259
Vehs Exited	1151	1300	1269	1267	1327	1255	1247
Starting Vehs	24	31	27	24	36	35	18
Ending Vehs	17	28	36	34	23	31	30
Travel Distance (mi)	448	503	506	497	516	483	489
Travel Time (hr)	25.2	28.6	29.7	28.4	30.6	27.7	28.3
Total Delay (hr)	7.0	8.4	9.0	8.2	9.6	8.0	8.5
Total Stops	1100	1287	1299	1272	1384	1246	1271
Fuel Used (gal)	17.8	20.2	21.0	20.3	21.4	19.5	19.8

Interval #1 Information Recording

Start Time 8:30

End Time 9:30

Total Time (min) 60

Volumes adjusted by Growth Factors.

Run Number	7	8	9	Avg
Vehs Entered	1285	1274	1242	1263
Vehs Exited	1280	1262	1238	1259
Starting Vehs	26	22	18	24
Ending Vehs	31	34	22	28
Travel Distance (mi)	500	496	480	492
Travel Time (hr)	28.7	28.3	28.1	28.4
Total Delay (hr)	8.3	8.2	8.6	8.4
Total Stops	1264	1266	1244	1264
Fuel Used (gal)	20.4	20.0	19.6	20.0

Queuing and Blocking Report

Baseline

04/27/2018

Intersection: 3: Toms Creek Rd & University City Blvd/Patrick Henry Dr

Movement	EB	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	TR	L	TR	L	TR
Maximum Queue (ft)	69	117	99	153	217	84	140	121	238
Average Queue (ft)	25	50	37	72	98	21	58	52	96
95th Queue (ft)	57	96	76	125	174	64	112	103	176
Link Distance (ft)		466	466	2132	2132		454		466
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	150				100		125		
Storage Blk Time (%)		0				0	2	0	3
Queuing Penalty (veh)		0				0	0	0	3

Intersection: 6: Progress St & Patrick Henry Dr

Movement	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	LT	TR	LT	T	R	L	TR	L	TR
Maximum Queue (ft)	105	117	137	106	30	60	55	23	88
Average Queue (ft)	50	53	71	29	2	24	15	2	31
95th Queue (ft)	84	96	122	72	15	56	45	12	64
Link Distance (ft)	2132	2132	525	525			460		447
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)				225	100		150		
Storage Blk Time (%)									
Queuing Penalty (veh)									

Network Summary

Network wide Queuing Penalty: 4

HCM 2010 Signalized Intersection Summary
 3: Toms Creek Rd & University City Blvd/Patrick Henry Dr

04/27/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖ ↗ ↘ ↙ ↖ ↗ ↘ ↙ ↖ ↗ ↘ ↙	↑ ↗ ↘ ↙ ↖ ↗ ↘ ↙ ↖ ↗ ↘ ↙	↑ ↗ ↘ ↙ ↖ ↗ ↘ ↙ ↖ ↗ ↘ ↙	↖ ↗ ↘ ↙ ↖ ↗ ↘ ↙ ↖ ↗ ↘ ↙	↑ ↗ ↘ ↙ ↖ ↗ ↘ ↙ ↖ ↗ ↘ ↙	↑ ↗ ↘ ↙ ↖ ↗ ↘ ↙ ↖ ↗ ↘ ↙	↖ ↗ ↘ ↙ ↖ ↗ ↘ ↙ ↖ ↗ ↘ ↙	↑ ↗ ↘ ↙ ↖ ↗ ↘ ↙ ↖ ↗ ↘ ↙	↑ ↗ ↘ ↙ ↖ ↗ ↘ ↙ ↖ ↗ ↘ ↙	↖ ↗ ↘ ↙ ↖ ↗ ↘ ↙ ↖ ↗ ↘ ↙	↑ ↗ ↘ ↙ ↖ ↗ ↘ ↙ ↖ ↗ ↘ ↙	↑ ↗ ↘ ↙ ↖ ↗ ↘ ↙ ↖ ↗ ↘ ↙
Traffic Volume (veh/h)	137	232	62	166	169	238	90	279	107	162	159	92
Future Volume (veh/h)	137	232	62	166	169	238	90	279	107	162	159	92
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q (Q _b), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.98	0.99		0.96	0.98		0.97	0.99	0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1881	1856	1900	1827	1839	1900	1759	1900	1900	1881	1900	1900
Adj Flow Rate, veh/h	146	247	66	177	180	253	96	297	114	172	169	98
Adj No. of Lanes	1	2	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	1	3	3	4	1	1	8	0	0	1	0	0
Cap, veh/h	274	778	203	473	201	283	382	368	141	317	351	204
Arrive On Green	0.08	0.28	0.28	0.10	0.30	0.30	0.06	0.28	0.28	0.09	0.32	0.32
Sat Flow, veh/h	1792	2758	720	1740	675	949	1675	1298	498	1792	1114	646
Grp Volume(v), veh/h	146	156	157	177	0	433	96	0	411	172	0	267
Grp Sat Flow(s),veh/h/ln	1792	1763	1715	1740	0	1624	1675	0	1797	1792	0	1760
Q Serve(g_s), s	4.7	5.7	6.0	5.8	0.0	21.1	3.3	0.0	17.6	5.5	0.0	10.1
Cycle Q Clear(g_c), s	4.7	5.7	6.0	5.8	0.0	21.1	3.3	0.0	17.6	5.5	0.0	10.1
Prop In Lane	1.00			0.42	1.00		0.58	1.00		0.28	1.00	0.37
Lane Grp Cap(c), veh/h	274	498	484	473	0	484	382	0	509	317	0	555
V/C Ratio(X)	0.53	0.31	0.32	0.37	0.00	0.89	0.25	0.00	0.81	0.54	0.00	0.48
Avail Cap(c_a), veh/h	573	626	609	736	0	576	498	0	855	383	0	838
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	21.0	23.3	23.4	18.0	0.0	27.7	19.4	0.0	27.5	20.1	0.0	22.8
Incr Delay (d2), s/veh	1.6	0.4	0.4	0.5	0.0	14.7	0.3	0.0	3.1	1.4	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	2.8	2.9	2.8	0.0	11.4	1.6	0.0	9.1	2.8	0.0	5.0
LnGrp Delay(d),s/veh	22.6	23.7	23.8	18.4	0.0	42.4	19.7	0.0	30.6	21.6	0.0	23.5
LnGrp LOS	C	C	C	B		D	B		C	C		C
Approach Vol, veh/h	459				610			507			439	
Approach Delay, s/veh	23.4				35.4			28.6			22.7	
Approach LOS	C				D			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+R _c), s	9.3	31.7	11.2	30.3	12.0	29.1	12.5	29.0				
Change Period (Y+R _c), s	4.5	5.7	4.5	5.7	4.5	5.7	4.5	5.7				
Max Green Setting (Gmax), s	10.5	39.3	20.5	29.3	10.5	39.3	20.5	29.3				
Max Q Clear Time (g_c+l1), s	5.3	12.1	6.7	23.1	7.5	19.6	7.8	8.0				
Green Ext Time (p_c), s	0.1	1.8	0.3	1.6	0.1	2.7	0.4	1.9				
Intersection Summary												
HCM 2010 Ctrl Delay				28.2								
HCM 2010 LOS				C								

HCM 2010 Signalized Intersection Summary

6: Progress St & Patrick Henry Dr

04/27/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	53	379	60	46	412	12	73	25	73	7	16	28
Future Volume (veh/h)	53	379	60	46	412	12	73	25	73	7	16	28
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Q _b), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.96	1.00		0.97	1.00		0.97	1.00	0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1879	1900	1900	1850	1900	1727	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	55	391	62	47	425	12	75	26	75	7	16	29
Adj No. of Lanes	0	2	0	0	2	1	1	1	0	1	1	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	2	2	0	10	0	0	0	0	0
Cap, veh/h	79	586	97	78	744	357	121	66	190	124	91	164
Arrive On Green	0.21	0.21	0.21	0.23	0.23	0.23	0.07	0.16	0.16	0.07	0.15	0.15
Sat Flow, veh/h	378	2792	463	341	3249	1559	1645	421	1214	1810	598	1084
Grp Volume(v), veh/h	271	0	237	252	220	12	75	0	101	7	0	45
Grp Sat Flow(s),veh/h/ln	1860	0	1773	1833	1758	1559	1645	0	1635	1810	0	1683
Q Serve(g_s), s	8.8	0.0	8.0	8.1	7.2	0.4	2.9	0.0	3.6	0.2	0.0	1.5
Cycle Q Clear(g_c), s	8.8	0.0	8.0	8.1	7.2	0.4	2.9	0.0	3.6	0.2	0.0	1.5
Prop In Lane	0.20		0.26	0.19		1.00	1.00		0.74	1.00		0.64
Lane Grp Cap(c), veh/h	391	0	372	420	403	357	121	0	255	124	0	255
V/C Ratio(X)	0.69	0.00	0.64	0.60	0.55	0.03	0.62	0.00	0.40	0.06	0.00	0.18
Avail Cap(c_a), veh/h	696	0	663	686	658	583	402	0	449	442	0	463
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	23.9	0.0	23.6	22.6	22.2	19.6	29.4	0.0	24.8	28.5	0.0	24.2
Incr Delay (d2), s/veh	2.2	0.0	1.8	1.4	1.2	0.0	5.1	0.0	1.0	0.2	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.8	0.0	4.1	4.2	3.6	0.2	1.5	0.0	1.7	0.1	0.0	0.7
LnGrp Delay(d),s/veh	26.1	0.0	25.4	24.0	23.4	19.6	34.5	0.0	25.8	28.7	0.0	24.6
LnGrp LOS	C		C	C	C	B	C		C	C		C
Approach Vol, veh/h	508				484			176			52	
Approach Delay, s/veh	25.8				23.6			29.5			25.1	
Approach LOS	C				C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2	3	4		6	7	8					
Phs Duration (G+Y+R _c), s	19.3	10.0	15.7		20.5	10.3	15.4					
Change Period (Y+R _c), s	5.5	5.5	5.5		5.5	5.5	5.5					
Max Green Setting (Gmax), s	24.5	16.0	18.0		24.5	16.0	18.0					
Max Q Clear Time (g_c+l1), s	10.8	2.2	5.6		10.1	4.9	3.5					
Green Ext Time (p_c), s	2.7	0.0	0.4		2.6	0.1	0.1					
Intersection Summary												
HCM 2010 Ctrl Delay			25.4									
HCM 2010 LOS			C									

Summary of All Intervals

Run Number	1	10	2	3	4	5	6
Start Time	4:45	4:45	4:45	4:45	4:45	4:45	4:45
End Time	6:00	6:00	6:00	6:00	6:00	6:00	6:00
Total Time (min)	75	75	75	75	75	75	75
Time Recorded (min)	60	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1	1
Vehs Entered	2059	2121	2092	2055	2045	2019	2058
Vehs Exited	2050	2106	2093	2075	2073	2046	2046
Starting Vehs	46	45	57	72	66	67	47
Ending Vehs	55	60	56	52	38	40	59
Travel Distance (mi)	809	852	831	811	811	800	832
Travel Time (hr)	57.3	61.5	59.5	58.0	57.8	55.4	58.3
Total Delay (hr)	24.3	26.8	25.6	25.1	24.8	23.0	24.4
Total Stops	2416	2555	2531	2325	2429	2391	2454
Fuel Used (gal)	35.8	38.0	37.1	36.0	36.3	35.2	36.8

Summary of All Intervals

Run Number	7	8	9	Avg
Start Time	4:45	4:45	4:45	4:45
End Time	6:00	6:00	6:00	6:00
Total Time (min)	75	75	75	75
Time Recorded (min)	60	60	60	60
# of Intervals	2	2	2	2
# of Recorded Intervals	1	1	1	1
Vehs Entered	2032	2083	2077	2063
Vehs Exited	2018	2072	2031	2060
Starting Vehs	51	52	32	54
Ending Vehs	65	63	78	58
Travel Distance (mi)	802	823	800	817
Travel Time (hr)	57.7	56.8	58.7	58.1
Total Delay (hr)	24.9	23.3	26.0	24.8
Total Stops	2422	2491	2413	2441
Fuel Used (gal)	35.8	36.5	36.3	36.4

Interval #0 Information Seeding

Start Time	4:45
End Time	5:00
Total Time (min)	15
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

Interval #1 Information Recording

Start Time 5:00

End Time 6:00

Total Time (min) 60

Volumes adjusted by Growth Factors.

Run Number	1	10	2	3	4	5	6
Vehs Entered	2059	2121	2092	2055	2045	2019	2058
Vehs Exited	2050	2106	2093	2075	2073	2046	2046
Starting Vehs	46	45	57	72	66	67	47
Ending Vehs	55	60	56	52	38	40	59
Travel Distance (mi)	809	852	831	811	811	800	832
Travel Time (hr)	57.3	61.5	59.5	58.0	57.8	55.4	58.3
Total Delay (hr)	24.3	26.8	25.6	25.1	24.8	23.0	24.4
Total Stops	2416	2555	2531	2325	2429	2391	2454
Fuel Used (gal)	35.8	38.0	37.1	36.0	36.3	35.2	36.8

Interval #1 Information Recording

Start Time 5:00

End Time 6:00

Total Time (min) 60

Volumes adjusted by Growth Factors.

Run Number	7	8	9	Avg
Vehs Entered	2032	2083	2077	2063
Vehs Exited	2018	2072	2031	2060
Starting Vehs	51	52	32	54
Ending Vehs	65	63	78	58
Travel Distance (mi)	802	823	800	817
Travel Time (hr)	57.7	56.8	58.7	58.1
Total Delay (hr)	24.9	23.3	26.0	24.8
Total Stops	2422	2491	2413	2441
Fuel Used (gal)	35.8	36.5	36.3	36.4

Queuing and Blocking Report

Baseline

04/27/2018

Intersection: 3: Toms Creek Rd & University City Blvd/Patrick Henry Dr

Movement	EB	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	TR	L	TR	L	TR
Maximum Queue (ft)	148	183	152	248	478	100	417	125	283
Average Queue (ft)	78	88	64	92	242	63	219	83	114
95th Queue (ft)	134	156	122	183	430	118	371	135	211
Link Distance (ft)		466	466	2132	2132		454		466
Upstream Blk Time (%)							1		
Queuing Penalty (veh)							0		
Storage Bay Dist (ft)	150					100		125	
Storage Blk Time (%)	0	1				1	34	1	5
Queuing Penalty (veh)	0	1				3	30	2	8

Intersection: 6: Progress St & Patrick Henry Dr

Movement	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	LT	TR	LT	T	R	L	TR	L	TR
Maximum Queue (ft)	183	195	249	217	38	96	138	33	60
Average Queue (ft)	102	115	136	88	9	51	45	6	20
95th Queue (ft)	156	174	214	173	32	94	94	25	45
Link Distance (ft)	2132	2132	525	525			460		447
Upstream Blk Time (%)						225	100		150
Queuing Penalty (veh)						0	1	0	
Storage Bay Dist (ft)						0	1	0	
Storage Blk Time (%)									
Queuing Penalty (veh)									

Network Summary

Network wide Queuing Penalty: 47

HCM 2010 Signalized Intersection Summary
 3: Toms Creek Rd & University City Blvd/Patrick Henry Dr

04/27/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑	↑↑		↑	↑		↑	↑		↑	↑	
Traffic Volume (veh/h)	38	89	62	163	140	128	31	114	35	102	198	89
Future Volume (veh/h)	38	89	62	163	140	128	31	114	35	102	198	89
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q (Q _b), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.97			0.94	0.97		0.96	0.98		0.99	1.00	0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1780	1900	1827	1864	1900	1496	1844	1900	1810	1900	1900
Adj Flow Rate, veh/h	43	101	70	185	159	145	35	130	40	116	225	101
Adj No. of Lanes	1	2	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	3	10	10	4	0	0	27	4	4	5	0	0
Cap, veh/h	293	364	227	477	227	207	312	387	119	490	394	177
Arrive On Green	0.04	0.19	0.19	0.11	0.26	0.26	0.04	0.29	0.29	0.07	0.32	0.32
Sat Flow, veh/h	1757	1951	1216	1740	878	801	1425	1352	416	1723	1228	551
Grp Volume(v), veh/h	43	86	85	185	0	304	35	0	170	116	0	326
Grp Sat Flow(s),veh/h/ln	1757	1691	1476	1740	0	1679	1425	0	1768	1723	0	1779
Q Serve(g_s), s	1.2	2.6	3.0	4.8	0.0	9.8	1.0	0.0	4.5	2.8	0.0	9.1
Cycle Q Clear(g_c), s	1.2	2.6	3.0	4.8	0.0	9.8	1.0	0.0	4.5	2.8	0.0	9.1
Prop In Lane	1.00			0.82	1.00		0.48	1.00		0.24	1.00	0.31
Lane Grp Cap(c), veh/h	293	316	276	477	0	434	312	0	506	490	0	570
V/C Ratio(X)	0.15	0.27	0.31	0.39	0.00	0.70	0.11	0.00	0.34	0.24	0.00	0.57
Avail Cap(c_a), veh/h	820	829	723	874	0	823	510	0	1162	669	0	1169
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	18.5	20.8	21.0	15.2	0.0	20.1	14.5	0.0	16.9	13.4	0.0	16.9
Incr Delay (d2), s/veh	0.2	0.5	0.6	0.5	0.0	2.1	0.2	0.0	0.4	0.2	0.0	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	1.3	1.3	2.3	0.0	4.7	0.4	0.0	2.3	1.3	0.0	4.6
LnGrp Delay(d),s/veh	18.7	21.3	21.6	15.7	0.0	22.1	14.6	0.0	17.2	13.7	0.0	17.8
LnGrp LOS	B	C	C	B		C	B		B	B		B
Approach Vol, veh/h	214				489			205			442	
Approach Delay, s/veh	20.9				19.7			16.8			16.7	
Approach LOS	C				B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+R _c), s	6.7	24.9	7.1	21.2	8.8	22.8	11.3	16.9				
Change Period (Y+R _c), s	4.5	5.7	4.5	5.7	4.5	5.7	4.5	5.7				
Max Green Setting (Gmax), s	10.5	39.3	20.5	29.3	10.5	39.3	20.5	29.3				
Max Q Clear Time (g_c+l1), s	3.0	11.1	3.2	11.8	4.8	6.5	6.8	5.0				
Green Ext Time (p_c), s	0.0	2.3	0.1	1.8	0.1	1.1	0.4	1.0				
Intersection Summary												
HCM 2010 Ctrl Delay				18.5								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary

6: Progress St & Patrick Henry Dr

04/27/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	184	25	29	277	4	30	12	12	2	39	45
Future Volume (veh/h)	21	184	25	29	277	4	30	12	12	2	39	45
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Q _b), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1774	1900	1900	1838	1900	1776	1900	1900	1900	1874	1900
Adj Flow Rate, veh/h	23	202	27	32	304	4	33	13	13	2	43	49
Adj No. of Lanes	0	2	0	0	2	1	1	1	0	1	1	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	4	4	4	1	1	0	7	0	0	0	3	3
Cap, veh/h	39	358	50	87	873	435	93	113	113	140	122	139
Arrive On Green	0.13	0.13	0.13	0.27	0.27	0.27	0.05	0.13	0.13	0.08	0.15	0.15
Sat Flow, veh/h	305	2774	386	324	3243	1615	1691	873	873	1810	801	912
Grp Volume(v), veh/h	133	0	119	180	156	4	33	0	26	2	0	92
Grp Sat Flow(s),veh/h/ln	1759	0	1706	1822	1746	1615	1691	0	1746	1810	0	1713
Q Serve(g_s), s	4.0	0.0	3.6	4.5	4.0	0.1	1.0	0.0	0.7	0.1	0.0	2.7
Cycle Q Clear(g_c), s	4.0	0.0	3.6	4.5	4.0	0.1	1.0	0.0	0.7	0.1	0.0	2.7
Prop In Lane	0.17		0.23	0.18		1.00	1.00		0.50	1.00		0.53
Lane Grp Cap(c), veh/h	227	0	220	490	470	435	93	0	226	140	0	260
V/C Ratio(X)	0.59	0.00	0.54	0.37	0.33	0.01	0.36	0.00	0.11	0.01	0.00	0.35
Avail Cap(c_a), veh/h	774	0	750	801	768	710	486	0	564	520	0	553
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	22.9	0.0	22.7	16.5	16.3	14.9	25.4	0.0	21.4	23.7	0.0	21.2
Incr Delay (d2), s/veh	2.4	0.0	2.1	0.5	0.4	0.0	2.3	0.0	0.2	0.0	0.0	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	0.0	1.8	2.3	2.0	0.0	0.5	0.0	0.4	0.0	0.0	1.3
LnGrp Delay(d),s/veh	25.3	0.0	24.8	17.0	16.7	14.9	27.7	0.0	21.6	23.8	0.0	22.0
LnGrp LOS	C		C	B	B	B	C		C	C		C
Approach Vol, veh/h	252			340			59			94		
Approach Delay, s/veh	25.0			16.8			25.0			22.0		
Approach LOS	C			B			C			C		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2	3	4		6	7	8					
Phs Duration (G+Y+R _c), s	12.7	9.8	12.7		20.5	8.6	14.0					
Change Period (Y+R _c), s	5.5	5.5	5.5		5.5	5.5	5.5					
Max Green Setting (Gmax), s	24.5	16.0	18.0		24.5	16.0	18.0					
Max Q Clear Time (g_c+l1), s	6.0	2.1	2.7		6.5	3.0	4.7					
Green Ext Time (p_c), s	1.4	0.0	0.1		1.9	0.0	0.3					
Intersection Summary												
HCM 2010 Ctrl Delay				20.9								
HCM 2010 LOS				C								

Summary of All Intervals

Run Number	1	10	2	3	4	5	6
Start Time	8:15	8:15	8:15	8:15	8:15	8:15	8:15
End Time	9:30	9:30	9:30	9:30	9:30	9:30	9:30
Total Time (min)	75	75	75	75	75	75	75
Time Recorded (min)	60	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1	1
Vehs Entered	1279	1265	1307	1279	1275	1295	1353
Vehs Exited	1259	1274	1311	1283	1281	1299	1347
Starting Vehs	22	37	33	28	31	29	25
Ending Vehs	42	28	29	24	25	25	31
Travel Distance (mi)	492	488	509	490	489	504	530
Travel Time (hr)	28.4	28.0	29.6	28.1	29.0	29.3	31.1
Total Delay (hr)	8.5	8.2	8.9	8.2	9.1	8.7	9.5
Total Stops	1283	1257	1327	1240	1311	1298	1390
Fuel Used (gal)	20.1	19.9	20.7	19.7	20.3	20.2	21.6

Summary of All Intervals

Run Number	7	8	9	Avg
Start Time	8:15	8:15	8:15	8:15
End Time	9:30	9:30	9:30	9:30
Total Time (min)	75	75	75	75
Time Recorded (min)	60	60	60	60
# of Intervals	2	2	2	2
# of Recorded Intervals	1	1	1	1
Vehs Entered	1357	1328	1278	1303
Vehs Exited	1363	1330	1268	1302
Starting Vehs	34	34	31	30
Ending Vehs	28	32	41	31
Travel Distance (mi)	532	519	504	506
Travel Time (hr)	31.2	29.8	29.4	29.4
Total Delay (hr)	9.5	8.6	9.0	8.8
Total Stops	1360	1332	1281	1307
Fuel Used (gal)	22.0	21.0	20.6	20.6

Interval #0 Information Seeding

Start Time	8:15
End Time	8:30
Total Time (min)	15
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

Interval #1 Information Recording

Start Time 8:30

End Time 9:30

Total Time (min) 60

Volumes adjusted by Growth Factors.

Run Number	1	10	2	3	4	5	6
Vehs Entered	1279	1265	1307	1279	1275	1295	1353
Vehs Exited	1259	1274	1311	1283	1281	1299	1347
Starting Vehs	22	37	33	28	31	29	25
Ending Vehs	42	28	29	24	25	25	31
Travel Distance (mi)	492	488	509	490	489	504	530
Travel Time (hr)	28.4	28.0	29.6	28.1	29.0	29.3	31.1
Total Delay (hr)	8.5	8.2	8.9	8.2	9.1	8.7	9.5
Total Stops	1283	1257	1327	1240	1311	1298	1390
Fuel Used (gal)	20.1	19.9	20.7	19.7	20.3	20.2	21.6

Interval #1 Information Recording

Start Time 8:30

End Time 9:30

Total Time (min) 60

Volumes adjusted by Growth Factors.

Run Number	7	8	9	Avg
Vehs Entered	1357	1328	1278	1303
Vehs Exited	1363	1330	1268	1302
Starting Vehs	34	34	31	30
Ending Vehs	28	32	41	31
Travel Distance (mi)	532	519	504	506
Travel Time (hr)	31.2	29.8	29.4	29.4
Total Delay (hr)	9.5	8.6	9.0	8.8
Total Stops	1360	1332	1281	1307
Fuel Used (gal)	22.0	21.0	20.6	20.6

Queuing and Blocking Report

Baseline

04/27/2018

Intersection: 3: Toms Creek Rd & University City Blvd/Patrick Henry Dr

Movement	EB	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	TR	L	TR	L	TR
Maximum Queue (ft)	69	110	88	173	226	84	138	115	211
Average Queue (ft)	26	48	35	75	104	25	62	49	95
95th Queue (ft)	59	91	69	138	181	66	116	100	178
Link Distance (ft)		466	466	2132	2132		454		466
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	150				100		125		
Storage Blk Time (%)		0				0	2	0	4
Queuing Penalty (veh)		0				0	1	0	4

Intersection: 6: Progress St & Patrick Henry Dr

Movement	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	LT	TR	LT	T	R	L	TR	L	TR
Maximum Queue (ft)	107	127	167	104	24	71	55	20	95
Average Queue (ft)	51	56	79	32	2	24	16	2	35
95th Queue (ft)	87	101	137	78	15	59	45	12	72
Link Distance (ft)	2132	2132	525	525			460		447
Upstream Blk Time (%)					225	100		150	
Queuing Penalty (veh)						0			
Storage Bay Dist (ft)						0			
Storage Blk Time (%)						0			
Queuing Penalty (veh)						0			

Network Summary

Network wide Queuing Penalty: 5

HCM 2010 Signalized Intersection Summary
 3: Toms Creek Rd & University City Blvd/Patrick Henry Dr

04/27/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑	↑↑		↑	↑		↑	↑		↑	↑	
Traffic Volume (veh/h)	137	238	67	166	176	246	99	288	107	169	164	92
Future Volume (veh/h)	137	238	67	166	176	246	99	288	107	169	164	92
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q (Q _b), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	0.99		0.96	0.98		0.97	0.99		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1881	1857	1900	1827	1839	1900	1759	1900	1900	1881	1900	1900
Adj Flow Rate, veh/h	146	253	71	177	187	262	105	306	114	180	174	98
Adj No. of Lanes	1	2	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	1	3	3	4	1	1	8	0	0	1	0	0
Cap, veh/h	265	787	216	471	206	289	381	370	138	313	353	199
Arrive On Green	0.08	0.29	0.29	0.10	0.30	0.30	0.06	0.28	0.28	0.09	0.31	0.31
Sat Flow, veh/h	1792	2726	748	1740	677	949	1675	1311	488	1792	1127	635
Grp Volume(v), veh/h	146	162	162	177	0	449	105	0	420	180	0	272
Grp Sat Flow(s),veh/h/ln	1792	1764	1711	1740	0	1626	1675	0	1799	1792	0	1762
Q Serve(g_s), s	4.8	6.1	6.3	5.9	0.0	22.6	3.7	0.0	18.6	5.9	0.0	10.7
Cycle Q Clear(g_c), s	4.8	6.1	6.3	5.9	0.0	22.6	3.7	0.0	18.6	5.9	0.0	10.7
Prop In Lane	1.00		0.44	1.00		0.58	1.00		0.27	1.00		0.36
Lane Grp Cap(c), veh/h	265	509	494	471	0	495	381	0	508	313	0	551
V/C Ratio(X)	0.55	0.32	0.33	0.38	0.00	0.91	0.28	0.00	0.83	0.58	0.00	0.49
Avail Cap(c_a), veh/h	553	607	589	723	0	560	482	0	831	367	0	814
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	21.6	23.7	23.8	18.2	0.0	28.4	19.9	0.0	28.6	20.9	0.0	23.8
Incr Delay (d2), s/veh	1.8	0.4	0.4	0.5	0.0	17.4	0.4	0.0	3.6	1.7	0.0	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	3.0	3.0	2.9	0.0	12.5	1.7	0.0	9.7	3.0	0.0	5.2
LnGrp Delay(d),s/veh	23.3	24.1	24.2	18.7	0.0	45.8	20.3	0.0	32.2	22.6	0.0	24.4
LnGrp LOS	C	C	C	B		D	C		C	C		C
Approach Vol, veh/h	470				626			525			452	
Approach Delay, s/veh	23.9				38.2			29.8			23.7	
Approach LOS	C				D			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+R _c), s	9.8	32.3	11.3	31.6	12.4	29.7	12.7	30.3				
Change Period (Y+R _c), s	4.5	5.7	4.5	5.7	4.5	5.7	4.5	5.7				
Max Green Setting (Gmax), s	10.5	39.3	20.5	29.3	10.5	39.3	20.5	29.3				
Max Q Clear Time (g_c+l1), s	5.7	12.7	6.8	24.6	7.9	20.6	7.9	8.3				
Green Ext Time (p_c), s	0.1	1.8	0.3	1.3	0.1	2.7	0.4	1.9				
Intersection Summary												
HCM 2010 Ctrl Delay				29.7								
HCM 2010 LOS				C								

HCM 2010 Signalized Intersection Summary

6: Progress St & Patrick Henry Dr

04/27/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	388	60	54	417	12	73	27	78	7	18	30
Future Volume (veh/h)	55	388	60	54	417	12	73	27	78	7	18	30
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Q _b), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A _{pbT})	1.00			0.96	1.00		0.96	1.00		0.97	1.00	0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1880	1900	1900	1848	1900	1727	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	57	400	62	56	430	12	75	28	80	7	19	31
Adj No. of Lanes	0	2	0	0	2	1	1	1	0	1	1	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	2	2	0	10	0	0	0	0	0
Cap, veh/h	82	595	96	90	727	355	122	66	190	125	98	159
Arrive On Green	0.21	0.21	0.21	0.23	0.23	0.23	0.07	0.16	0.16	0.07	0.15	0.15
Sat Flow, veh/h	384	2799	454	394	3190	1558	1645	424	1211	1810	642	1048
Grp Volume(v), veh/h	276	0	243	260	226	12	75	0	108	7	0	50
Grp Sat Flow(s), veh/h/ln	1861	0	1776	1828	1756	1558	1645	0	1635	1810	0	1690
Q Serve(g_s), s	9.1	0.0	8.2	8.4	7.5	0.4	2.9	0.0	3.9	0.2	0.0	1.7
Cycle Q Clear(g_c), s	9.1	0.0	8.2	8.4	7.5	0.4	2.9	0.0	3.9	0.2	0.0	1.7
Prop In Lane	0.21		0.26	0.22		1.00	1.00		0.74	1.00		0.62
Lane Grp Cap(c), veh/h	395	0	377	416	400	355	122	0	256	125	0	257
V/C Ratio(X)	0.70	0.00	0.64	0.62	0.57	0.03	0.62	0.00	0.42	0.06	0.00	0.19
Avail Cap(c_a), veh/h	692	0	661	680	653	580	400	0	447	440	0	462
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	24.0	0.0	23.7	22.9	22.5	19.8	29.6	0.0	25.1	28.6	0.0	24.4
Incr Delay (d2), s/veh	2.2	0.0	1.8	1.5	1.3	0.0	5.0	0.0	1.1	0.2	0.0	0.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%), veh/ln	4.9	0.0	4.2	4.4	3.8	0.2	1.5	0.0	1.8	0.1	0.0	0.8
LnGrp Delay(d), s/veh	26.2	0.0	25.5	24.4	23.8	19.8	34.6	0.0	26.2	28.8	0.0	24.8
LnGrp LOS	C		C	C	C	B	C		C	C		C
Approach Vol, veh/h	519				498			183			57	
Approach Delay, s/veh	25.9				24.0			29.6			25.3	
Approach LOS	C				C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2	3	4		6	7	8					
Phs Duration (G+Y+R _c), s	19.5	10.1	15.8		20.5	10.4	15.5					
Change Period (Y+R _c), s	5.5	5.5	5.5		5.5	5.5	5.5					
Max Green Setting (Gmax), s	24.5	16.0	18.0		24.5	16.0	18.0					
Max Q Clear Time (g_c+l1), s	11.1	2.2	5.9		10.4	4.9	3.7					
Green Ext Time (p_c), s	2.8	0.0	0.4		2.6	0.1	0.1					
Intersection Summary												
HCM 2010 Ctrl Delay			25.7									
HCM 2010 LOS			C									

Summary of All Intervals

Run Number	1	10	2	3	4	5	6
Start Time	4:45	4:45	4:45	4:45	4:45	4:45	4:45
End Time	6:00	6:00	6:00	6:00	6:00	6:00	6:00
Total Time (min)	75	75	75	75	75	75	75
Time Recorded (min)	60	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1	1
Vehs Entered	2049	2130	2158	2181	2004	2154	2194
Vehs Exited	2037	2131	2150	2185	2007	2171	2190
Starting Vehs	52	65	69	69	57	66	56
Ending Vehs	64	64	77	65	54	49	60
Travel Distance (mi)	816	849	856	858	799	837	845
Travel Time (hr)	56.3	61.4	67.4	66.2	56.3	59.6	62.3
Total Delay (hr)	23.0	26.8	32.7	31.3	23.8	25.5	28.0
Total Stops	2424	2546	2595	2683	2389	2509	2571
Fuel Used (gal)	35.7	37.9	39.6	39.2	35.4	37.3	38.1

Summary of All Intervals

Run Number	7	8	9	Avg
Start Time	4:45	4:45	4:45	4:45
End Time	6:00	6:00	6:00	6:00
Total Time (min)	75	75	75	75
Time Recorded (min)	60	60	60	60
# of Intervals	2	2	2	2
# of Recorded Intervals	1	1	1	1
Vehs Entered	2129	2090	2137	2125
Vehs Exited	2124	2090	2132	2122
Starting Vehs	62	66	54	59
Ending Vehs	67	66	59	60
Travel Distance (mi)	836	817	852	837
Travel Time (hr)	60.5	60.5	61.1	61.1
Total Delay (hr)	26.5	27.2	26.4	27.1
Total Stops	2488	2441	2597	2526
Fuel Used (gal)	37.7	36.8	38.3	37.6

Interval #0 Information Seeding

Start Time	4:45
End Time	5:00
Total Time (min)	15
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

Interval #1 Information Recording

Start Time 5:00

End Time 6:00

Total Time (min) 60

Volumes adjusted by Growth Factors.

Run Number	1	10	2	3	4	5	6
Vehs Entered	2049	2130	2158	2181	2004	2154	2194
Vehs Exited	2037	2131	2150	2185	2007	2171	2190
Starting Vehs	52	65	69	69	57	66	56
Ending Vehs	64	64	77	65	54	49	60
Travel Distance (mi)	816	849	856	858	799	837	845
Travel Time (hr)	56.3	61.4	67.4	66.2	56.3	59.6	62.3
Total Delay (hr)	23.0	26.8	32.7	31.3	23.8	25.5	28.0
Total Stops	2424	2546	2595	2683	2389	2509	2571
Fuel Used (gal)	35.7	37.9	39.6	39.2	35.4	37.3	38.1

Interval #1 Information Recording

Start Time 5:00

End Time 6:00

Total Time (min) 60

Volumes adjusted by Growth Factors.

Run Number	7	8	9	Avg
Vehs Entered	2129	2090	2137	2125
Vehs Exited	2124	2090	2132	2122
Starting Vehs	62	66	54	59
Ending Vehs	67	66	59	60
Travel Distance (mi)	836	817	852	837
Travel Time (hr)	60.5	60.5	61.1	61.1
Total Delay (hr)	26.5	27.2	26.4	27.1
Total Stops	2488	2441	2597	2526
Fuel Used (gal)	37.7	36.8	38.3	37.6

Queuing and Blocking Report

Baseline

04/27/2018

Intersection: 3: Toms Creek Rd & University City Blvd/Patrick Henry Dr

Movement	EB	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	TR	L	TR	L	TR
Maximum Queue (ft)	147	200	167	309	575	100	435	125	267
Average Queue (ft)	77	94	72	92	280	63	232	84	120
95th Queue (ft)	133	164	140	196	504	117	391	139	229
Link Distance (ft)		466	466	2132	2132		454		466
Upstream Blk Time (%)							1		
Queuing Penalty (veh)							0		
Storage Bay Dist (ft)	150				100		125		
Storage Blk Time (%)	0	1			1	36	1	6	
Queuing Penalty (veh)	1	1			3	36	4	11	

Intersection: 6: Progress St & Patrick Henry Dr

Movement	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	LT	TR	LT	T	R	L	TR	L	TR
Maximum Queue (ft)	199	217	236	194	31	95	118	33	55
Average Queue (ft)	103	117	139	90	7	51	45	6	21
95th Queue (ft)	169	191	212	173	28	90	87	24	44
Link Distance (ft)	2132	2132	525	525			460		447
Upstream Blk Time (%)					225	100		150	
Queuing Penalty (veh)					0	1	0		
Storage Bay Dist (ft)					0	1	0		
Storage Blk Time (%)									
Queuing Penalty (veh)									

Network Summary

Network wide Queuing Penalty: 56